RADIOACTIVE LANTHANUM, IODINE-131, AND CESIUM-137: PRODUCTION, RELEASE, AND DISPOSAL AT THE OAK RIDGE NATIONAL LABORATORY: A GUIDE TO RECORD SERIES OF THE DEPARTMENT OF ENERGY AND ITS CONTRACTORS

DRAFT

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INTRODUCTION

Overview

The purpose of this guide is to describe each of the documents and record series pertaining to the production, release, and disposal of radioactive barium-lanthanum (RaLa), iodine-131, and cesium-137 at the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee. History Associates Incorporated (HAI) prepared this guide as part of DOE's Epidemiologic Records Inventory Project, which seeks to verify and conduct inventories of epidemiologic and health-related records at various DOE and DOE contractor sites.

This introduction briefly describes the Epidemiologic Records Inventory Project and HAI's role. It provides information on the history of the DOE-Oak Ridge Reservation (ORR), particularly ORNL. Specific attention is given to the production of RaLa and the fission products iodine-131 and cesium-137. RaLa production for nuclear weapons development reached its height during the late 1940s and early 1950s, which resulted in rarely monitored or restricted releases of iodine-131 and other short-lived fission products. ORNL also manufactured iodine-131 and cesium-137 for therapeutic use in the private sector and its own research needs. The production and onsite use of these nuclides resulted in both deliberate and unplanned environmental releases. Moreover, these nuclides were prevalent in the large quantities of liquid waste and airborne contaminants that have been discharged and monitored at the ORR since the 1940s.

This introduction also describes the methodologies HAI used in the selection and inventorying of documents and record series pertaining to RaLa, iodine-131, and cesium-137, and in the production of this guide. Concluding paragraphs describe the arrangement of the record series, explain the information contained in the record series descriptions, and indicate restrictions on access to the records.

The Epidemiologic Records Inventory Project

The Epidemiologic Records Inventory Project reflects DOE Secretary Hazel R. O'Leary's efforts to support openness initiatives in the areas of environment, safety, and health. In view of the importance of various administrative, organizational, and operational records to epidemiologic and health-related studies, a moratorium on the destruction of such records has been in effect since 1989.

In May 1992, the DOE Office of Epidemiology and Health Surveillance (EH-42), responsible for coordinating epidemiologic activities throughout the Energy complex, directed each DOE site and DOE contractor to prepare an inventory of all records pertinent to studies of worker

or community health-related studies. EH-42 prepared and furnished each site with guidelines that defined epidemiologic records, provided instruction for describing record series, outlined the site's role in inventorying epidemiologic records, and discussed the relationship of the epidemiologic inventory to DOE's comprehensive records inventory. These inventories should be completed in 1995.

In August 1993, DOE selected History Associates as its support services contractor for the Epidemiologic Records Inventory Project. HAI, a professional records management, archives, and historical research services firm incorporated in 1981, has provided records management, historical research, and technical support for a number of DOE projects. HAI's role in this project includes verifying the accuracy, comprehensiveness, and quality of existing inventories, providing guidance to site records management teams, and, in some cases, conducting additional inventories.

As part of its task to verify and conduct inventories of epidemiologic and health related records at DOE and DOE contractor sites, HAI performed a pilot study at the DOE-Oak Ridge Reservation. The primary purpose of this project was to assist DOE in responding to information needs identified in a March 1994 meeting among representatives of DOE, the Tennessee Department of Health (TDH), and other stakeholders. These groups expressed interest in records relating to RaLa, iodine-131, cesium-137, and in the Y-12 Mercury Task Force Files. History Associates began this task by inventorying and describing the record series contained in the Y-12 Mercury Task Force Files that pertained to operations that used large quantities of mercury and, subsequently, produced a guide to that collection. With the production of this guide to selected ORNL records and another guide to records concerning cesium-137 located at the Oak Ridge K-25 plant, DOE will be providing valuable assistance to health researchers interested in using its records.

HISTORY OF OAK RIDGE

The Oak Ridge Reservation

Oak Ridge, Tennessee, was one of three sites established by the Manhattan Project during World War II for the development of the first atomic weapons. Selected on September 19, 1942, the Clinton Engineering Works (CEW), later called the Oak Ridge Reservation, was the site of three major production facilities, which were known by the code-names X-10, Y-12, and K-25. The X-10 site, which later expanded to become the Oak Ridge National Laboratory, housed the country's first full-scale graphite reactor. Known then as the Clinton Pile, the graphite reactor provided irradiated uranium slugs from which plutonium and other nuclear fuels could be separated at the X-10 pilot plant. The Y-12 facility produced enriched uranium-235 by means of electromagnetic separation, and the K-25 plant, also known as the Oak Ridge Gaseous Diffusion Plant (ORGDP), produced enriched uranium-235 by a gaseous diffusion process.

The Oak Ridge facilities produced significant amounts of hazardous waste and by-products, leading the Environmental Protection Agency (EPA) to include Oak Ridge on its National Priorities List of Superfund hazardous waste sites in November 1989. In 1991 DOE signed the Oak Ridge Health Agreement which provides funds to the state of Tennessee for independent health assessment studies of Oak Ridge operations and the surrounding population.

The Oak Ridge National Laboratory

The Oak Ridge National Laboratory evolved from the Clinton Laboratory, or X-10, the first laboratory built as part of the Clinton Engineering Works in 1943. It housed the graphite reactor for the irradiation of uranium slugs and chemical processing facilities for the separation of plutonium and other nuclear fuels from enriched uranium. In 1948, the Clinton Laboratory became known as the Oak Ridge National Laboratory. It continued to process fuel for nuclear weapons and develop new processing technologies. The mission of ORNL also expanded to include the production of radioisotopes for commercial and medical uses, research into the biomedical effects of radiation, and the operation of other experimental reactors. Currently, the laboratory operates as a multidisciplinary facility, conducting research and development in conjunction with governmental agencies, private industry, and academia. In recent years, ORNL has focused its research on magnetic fusion, nuclear fission, biological and environmental research, conservation and renewable energy, fossil energy, and basic research in the physical sciences.

RaLa Production, 1944-1956

From 1944 to 1956, ORNL produced radioactive barium-lanthanum (RaLa) for nuclear weapons research at the Los Alamos Laboratory in New Mexico. Los Alamos scientists used RaLa to study the possible use of implosion, an inward burst of energy, as a triggering mechanism for an atomic blast. Researchers placed RaLa, which decays (40.22 hours) by the release of energetic gamma rays, at the center of the test instrument and measured the radiation following detonation of the device to characterize the movement of the weapon's components.

Processes to produce RaLa involved large quantities of irradiated uranium reactor fuel that had been allowed to decay, or cool so that it was less radioactive, for a short period of time. RaLa was known as a short-decay fuel. The parent fission product for RaLa was barium-140, which because of its 12.8 day half-life, had to be reprocessed soon after removal of the uranium slugs from the reactor. In the early stages of RaLa production, ORNL used slugs irradiated both onsite and at Hanford, Washington; however, after 1949, only slugs irradiated at Hanford were used in RaLa production at ORNL. Reports from that period indicate that the decay period of the slugs ranged from one to five days following a 40-day irradiation period. After the decay period, the slugs were dissolved and the barium-140 was extracted and evaporated into dry form for shipment to Los Alamos where it was "milked" for lanthanum-140. In 1949, full scale RaLa runs involved up to 1,728 slugs, or 34.5 batches of 50 slugs each.

Following Los Alamos' request for RaLa in April 1944, ORNL developed the processing technology and conducted early operations in building 706-C, where an existing laboratory was converted for RaLa operations within five months. The first RaLa run in the 706-C facility was completed in September 1944 and nine shipments were sent to Los Alamos. Originally designed for small-scale fission product separation, the 706-C facility was inadequate to fulfill requests for larger amounts of RaLa. In May 1945, ORNL completed the construction of building 706-D designed to meet the increasing demands for RaLa. By March 1949, 706-D produced 31 shipments of barium-140 for Los Alamos, each averaging over 2,000 curies.

In late 1949, Los Alamos again began to request greater amounts of RaLa from ORNL. Production goals increased from 10,000 curies per shipment in July 1950 to as high as 50,000 curies in the early 1950s. After the addition of an ion exchange process in the final stage of separation and purification, ORNL processed and shipped up to 64,805 curies to Los Alamos in January 1954. In that year, the Atomic Energy Commission decided to build a new RaLa production facility in Idaho, and in 1956, ORNL completed its final RaLa run (number 68). In all, ORNL dissolved at least 30,000 slugs and provided over 500,000 curies of barium-140 for the development of nuclear weapons at Los Alamos.

RaLa Waste and Disposal, 1944-1956

The entire RaLa production process, from the initial cooling of the uranium slugs to the extraction and evaporation of barium-140, released several fission products. The early days of RaLa production witnessed minimal use of control devices on off-gas lines and exhaust stacks to restrict the release of these fission products. Until 1946 Building 706-D exhausted through a local 30-foot-high fan stack house; off-gas was routed to a central pilot plant stack. As production increased throughout the late 1940s and early 1950s, ORNL recognized that radioactive airborne contamination from RaLa production was a problem. Typically, a dissolving batch of 50 slugs produced 2,500 curies of xenon-133, 1,300 curies of iodine-131, and less than one curie of krypton-85.

In 1948 ORNL equipped the stacks and off-gas lines associated with both the RaLa building and the graphite reactor with charcoal filters. By 1950 ORNL had routed off-gas releases from 706-D to a 250-foot brick stack that served most of the site. Known as the "900 area" stack, the new central off-gas line included particulate filters and an electrostatic precipitator, but no scrubbers specifically designed for iodine-131. Despite these measures, a 1954 study revealed that RaLa operations continued to be the major contributor to airborne radioactivity at ORNL.

In addition to airborne particulate contamination, RaLa production also yielded liquid wastes, which added to the overall waste management problem at ORNL. Throughout the late 1940s and early 1950s, ORNL produced 7,000 gallons daily of liquid waste that was precipitated in concrete gunite tanks before discharge into White Oak Creek. During the precipitation phase, many short-lived fission products were released, including iodine-131 and barium-140.

Iodine-131

ORNL produced significant quantities of iodine-131 for medical and scientific research. In August 1946 the laboratory first produced iodine-131 for commercial distribution by irradiating tellurium. In that year, ORNL produced 2,650 curies of iodine-131. By the end of the decade, production had increased ten-fold. By 1951, the demand for iodine-131 exceeded that for any other radionuclide produced at ORNL.

ORNL developed a method for separating pure fission-product iodine from graphite reactor slugs in the late 1940s, and an iodine production plant became operational in Building 706-C in September 1948. By June 1949, iodine-131 production involved 23 irradiated uranium slugs per month, yielding shipments of about 10.4 curies. Within three years, the 706-C facility had produced 1,000 curies for commercial distribution. Slightly elevated air contamination in the building sometimes resulted from small leaks during material transfers. At that time, the central exhaust treatment facility and stack had not yet been completed.

Cesium-137

Cesium-137 is a radioactive metal with a half-life of approximately 30.17 years. It is one of the main fission by-products of the chemical processes that yield plutonium and other enriched nuclear fuels. From the early 1940s to the 1960s, ORNL produced sizable quantities of the nuclide. Cesium-137 is also a major component of the fallout from a nuclear explosion. Because of its strong gamma emission, cesium is a useful tool in radiation therapy. Its intense gamma radiation also means that uncontrolled exposure can be hazardous. At room temperature, cesium is a liquid that reacts violently with other materials. It bonds predominantly with chlorides to create cesium salts that are extremely soluble in water.

Since the 1950s, ORNL has shipped some of its liquid waste containing cesium-137 to the nearby K-25 plant for treatment and disposal. However, ORNL also discharged much of its cesium-contaminated liquid waste into area waterways, such as the Clinch River and White Oak Creek. Cesium-137 damages the ecology of these waterways, as it settles into riverbed sediments, contaminating aquatic vegetation, and depositing in the tissue of fish and other aquatic animals. Cesium-137 makes its way into the human community by consumption of the food grown in contaminated soil and fish pulled from contaminated waterways. Chemically similar to potassium and sodium, cesium-137 may deposit in the body in ways similar to these elements, particularly in the tissues of the stomach, large and small intestines, liver, spleen, and muscle.

In the 1960s, ORNL deliberately released cesium-137 into a field near the Clinch River to study how the nuclide behaves in the environment after a nuclear explosion. As a result of this experiment, cesium-137 contaminated the groundwater and entered the Clinch River through surface water run-off and erosion.

METHODOLOGY

In March 1994, History Associates met with DOE, the Tennessee Department of Health, and other stakeholders, and agreed to inventory the collection of classified mercury files and identify, inventory, and describe documents and record series pertaining to RaLa, iodine-131, and cesium-137. During this site visit, HAI also conferred with the management and staff of the ORNL Information Management Services, the division in charge of the Laboratory Records. HAI toured the Laboratory Records, which are divided into Central Files and the Records Center holding areas. Central Files contains documents and reports created by ORNL since its inception in 1943. The Records Center holding areas contain inactive records, which either can be recalled by the creating office or transferred to the Federal Records Center in East Point, GA. The Information Management Service (IMS) staff introduced HAI to the indexes to the Central Files, provided photocopies of ORNL organizational charts, and agreed to send HAI a printout of the Record Center holdings from the BLUREC database and inventory data sheets.

The HAI records managers then developed a strategy for the identification, selection, and inventory of these records. They reviewed the ChemRisk Dose Reconstruction Feasibility Study, organizational charts of ORNL, inventory sheets, and the list of box titles from the BLUREC database. From ChemRisk studies and the organizational charts, they identified relevant departments, divisions, and key individuals responsible for RaLa operations and radioisotope production. HAI staff also researched the processes involved in RaLa operations and radioisotope production. From the inventory sheets, they identified pertinent documents and record series.

In May 1994, HAI returned to Oak Ridge for additional onsite preparation, photocopying Records Transmittal and Receipts, NARA Standard Form 135 (SF-135s) at the DOE Records Center and consulting with Martin Marietta records managers at the ORNL and K-25 sites. Research conducted in Rockville indicated that the K-25 site, which has long been involved in the management of wastes containing cesium-137, potentially held many of the documents and record series pertaining to this substance. HAI requested that the K-25 Records Manager send photocopies of the site's organizational charts, past and present records inventories sheets, and other sources of information that would assist the researchers in their preparation for the June inventory.

During their visit at ORNL in May, HAI examined boxes of records in the Records Center holding areas to determine if they actually pertained to the inventory and eliminated many boxes. Upon the advice of IMS staff, HAI visited the DOE Office of Scientific Information (OSTI), toured its facility, and reviewed its collection. HAI also reviewed the papers of Alexander Hollander, the first director the ORNL Biology Division, which used cesium-137 in a study of the biomedical effects of radiation. Hollander's papers are part of the

Radiation Research Collection, housed in the Special Collection of the University of Tennessee's J.D. Hoskins Library.

After returning from this trip, HAI conducted further background research. At the DOE Library in Germantown, MD, researchers examined the Nuclear Science Abstracts for titles of documents as a way to predict possible record series and further develop key word lists. HAI also examined both classified and unclassified Atomic Energy Commission (AEC) records relating to ORNL at the National Archives and Records Administration in Washington, D.C.

In June 1994, HAI began inventorying records at ORNL with a review of the various indexes to the ORNL Central Files for documents relating to RaLa, iodine-131, and cesium-137. This task was extremely labor intensive, since the entry for each document is handwritten. HAI used lists of divisions, departments, employees, work locations, waste disposal sites, and other keywords pertaining to RaLa and radioisotope production to guide them through these indexes. The indexes provide the Central File (CF) number assigned to a document, which represents the year and month that the document was created and received by Laboratory Records. The Central Files are arranged sequentially by these numbers on open shelves. Locating specific documents is difficult, since the Central Files are in constant use; files are pulled from the shelves frequently, and refiling is not prompt. To facilitate HAI's search for documents, ORNL records managers furnished researchers with a list of documents examined by ChemRisk. ORNL reports are assigned similar numbers that indicate the date of creation and receipt by Laboratory Records. They are arranged sequentially as well on open shelves. Some ORNL reports bear letters that indicate a certain type of document, for example TM for Technical Memorandum and TR for Technical Release. For a complete list of these designations, contact ORNL Information Management Services, Building 4500 N, Rm 205.

After examining the indexes, HAI pulled documents and reports from the shelves, assembled them into record series, and developed record series descriptions. The inventory focused on documents generated from the mid-1940s to the mid-1960s. For Waste Management monitoring documents and records pertinent to current activities associated with cesium-137, HAI included more recent documents, many of which are located in the K-25 record centers, although they may have been created by an ORNL office. HAI also reviewed the collection of selected unclassified CF and ORNL documents on microfiche in the ORNL Technical Library. Moreover, HAI inventoried active records associated with these current activities and interviewed associated individuals. See Appendix A for a list of interviewees.

In addition to their inventory of Central Files, HAI researchers also identified and inventoried records stored in the Records Center holding areas at ORNL. In June and August they inventoried 775 cubic feet of boxed records and an estimated 375 linear feet of files maintained on open shelving.

Data Elements

In accordance with the guidelines in *Information Required by the Department of Energy for Epidemiologic and Health Studies*, DOE developed a list of 123 (later revised to 85) data elements to assign to record series descriptions. In general, the data elements consist of terms pertaining to contractor organizations, individual employees, industrial hygiene activities, and facilities characteristics that help catagorize and describe the information contained in each record series. The data elements assigned to each record series are listed as numbers that correspond to the data elements foumd in Appendix B.

PRODUCTION AND USE OF THE GUIDE

After completing the inventory at ORNL, HAI researchers analyzed their inventory forms to create record series. Descriptions of their contents includes the title of the series, inclusive dates, location, status (active or inactive), access restrictions, accession or other identification number, total volume, and the numbers of the record containers. The record series descriptions also note the medium in which the records exists (paper, electronic disk, microfilm), their suitability for electronic scanning, their physical condition, the availability of finding aids, the arrangement of the records, the originating office, any known duplication, and the disposition authority.

LIMITATIONS OF THE GUIDE

This guide reflects work completed during HAI's June and August 1994 inventory site visits. Because of the nature of the organization and arrangement of the ORNL Central Files, that is, individual documents and reports arranged by a numerical system, HAI either inventoried records at the document rather than the series level, or inventoried a broad sample of documents and assembled them into record series. In some cases, HAI has described single reports. Record collections at ORNL are not static; new documents are added to the Laboratory Records continually, and inactive records are sent to the Federal Records Center in East Point, GA. Additionally this guide may be revised after future visits to the East Point FRC and the DOE Records Center in Oak Ridge.

ARRANGEMENT OF THE GUIDE

History Associates grouped the record series descriptions into fourteen categories in order to facilitate their use by researchers. The catagories, which roughly correspond to groups of documents that were generated by various divisions at ORNL, are as follows:

I. Indexes and Databases
II. Analytical Chemistry Division
III. Central Management Office
IV. Chemical Technology Division
V. Chemistry Division
VI. Director's Office
VII. Engineering Division
VIII. Environmental Sciences Division
IX. Health Division
X. Health Physics Division
XI. Office of Environmental Compliance and Documentation
XII. Operations Division
XIII. Technical Division
XIV. Other Divisions

Data Items in Record Series
This guide provides descriptions of electronic and nonelectronic record series, containing eleven and fifteen major categories of information, respectively. Each of the categories is explained below. (Categories specific to electronic record series are noted.)

Title and Inclusive Dates
Each record series description begins with a title that reflects the broad content of the record series and the inclusive dates of the records.

Location
Information on the physical location of the record series and an indication of its status, active or inactive, is provided here. Active records are necessary to conduct current business and are generally maintained in an office. Inactive records are those no longer needed for current business and are generally transferred to records storage areas for eventual disposition.

Location of Codebooks and Manuals (electronic)
This section tells where to find codebooks and manuals pertinent to the record series.

Location/Volume of Storage Media (electronic)
Information on the location, volume, and type of storage media is provided here.

Access Restrictions
Although the majority of documents have been declassified, a DOE Q clearance is required to enter the Laboratory Records vault and the Record Center holding areas; otherwise, researchers must request to review documents outside these areas. For information on access to these record, please contact Juli Stewart, Information Management Services, MMES, 615-576-8834.

Classified Information
Access to classified information is restricted. To assist researchers in understanding the types of classified information and the restrictions that govern access to them, the following excerpts from the DOE's *Understanding Classification* (June 1987) are provided:

Categories of Classified Information
There are three categories of classified information: Restricted Data; Formerly Restricted Data; and National Security Information.

1. RESTRICTED DATA (RD) is a special category of classification with which the Department of Energy is principally concerned. The Restricted Data category is defined in the Atomic Energy Act as follows:

> "The term RESTRICTED DATA means all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear materials; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 142."

2. FORMERLY RESTRICTED DATA (FRD) is information which has been removed from the Restricted Data category after the Department of Energy and the Department of Defense (DOD) have jointly determined that the information related primarily to the military utilization of atomic weapons and can be adequately safeguarded in the same manner as National Security Information in the United States. This is known as transclassification. Such data may not be given to any other nation except under specially approved agreements.

3. NATIONAL SECURITY INFORMATION (NSI) is information which requires protection against unauthorized disclosure in the interest of the national defense or foreign relations of the United States and has been determined to be classified in accordance with the provisions of Executive Order 12356 or a prior Executive order.

Levels of Classified Information
There are three levels of classified information: Top Secret; Secret; and Confidential.

1. TOP SECRET is the level assigned to information of utmost importance to the national defense and security. Its unauthorized disclosure could reasonably be expected to cause *exceptionally grave damage* to national security.

2. SECRET is the level for information which, in the event of an unauthorized disclosure, could reasonably be expected to cause *serious damage* to national security.

3. CONFIDENTIAL is the level for information which, in the event of an unauthorized disclosure, could reasonably be expected to cause *damage* to national security.

For further information, see also DOE Office of Safeguards and Security Headquarters, *Security Education Overview Handbook* (DOE/SA-0004).

System Control or Other ID No. (electronic)
If applicable, this information is provided here.

Hardware/Software (electronic)
The type of computer and program storing the data is identified here.

Estimated Activity (electronic)
A qualitative estimation of the use of the database is indicated here.

Office/Program Supported by the System (electronic)
The office or program supported by the system is identified here.

Volume
For Central Files, an estimated volume of the records is given in linear feet and the folder numbers are provided. Records in the holding areas are stored in boxes and their volume is given in cubic feet. One cubic foot, on the average, is equal to 24 file folders.

Accession/Other Identification Number
Individual records in Central Files have either a Central File number or an ORNL number. Records in the Laboratory Records Centers have accession numbers.

Condition
HAI judged the physical condition of the record series, categorizing them as either good, fair, or poor. If the records were judged to be in poor condition, an explanation is provided.

Container Number
The records in the holding areas are in boxes whose numbers are given, while the records in central files are on open shelves and not further designated.

Medium
The physical nature of the records, such as paper, microfilm, electronic, or audiovisual, is noted.

Scanning Suitability
HAI has provided a statement concerning the suitability of records for electronic scanning purposes. Factors that may affect scanning suitability, including paper size, weight, ink and

paper colors, type font, and the presence of handwritten data, graphs, diagrams, and photographs are noted under this heading. Depending on future state-of-the-art scanning technology and equipment, this statement may or may not remain accurate.

Duplication
Any known duplication is noted. DOE's Office of Scientific and Technical Information (OSTI) has duplications of most of the reports generated by ORNL. For information on access to OSTI, contact J. Lowell Langford, 615-576-8518.

Arrangement
The arrangement of the record series, for example, numerical, chronological or alphabetical, is described when possible.

Originating Office
The office of the organization (e.g., Health Physics Department, Radiation Safety Division, or Union Carbide Company) which produced the records is provided here. In some cases, as in Technical Reports, Technical Memoranda, and Quarterly Reports, for example, several organizational departments and divisions contributed documents to the record series, and the term "various departments and divisions" is used.

Finding Aids
If finding aids exist, they are listed.

Disposition Authority
Disposition authority refers to the NARA General Records Schedules and DOE Records Schedules. The majority of records inventoried have not been assigned a disposition schedule and are cited as not applicable (N/A); however, when a record is scheduled, the information is noted.

Data Elements
The data elements, which are similar to key words, that HAI considered pertinent to the record series are listed in numerical order. The numbers correspond to the revised data elements list (see Appendix B).

Director's Files Indexes 1946-1994

Location: 1. Active: ORNL, Building 4500N, Rm. H214
2. Inactive:

Access Restrictions: Unclassified

Volume: Approximately 2 inches

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: N/A

Medium: Paper

Scanning Suitability: Not entirely suitable; older indexes are on dark brittle paper

Duplication: Unknown

Arrangement: Alphabetical by subject until 1977, then numerical by subject code

Originating Office: Central Management Office, Director's Files

Finding Aids: N/A

Disposition Authority: N/A

Series Description: The Director's Files Indexes are the finding aids to the Director's Subject Files stored in Rooms H214 and H204. The indexes are subject oriented until 1977 when a numeric subject system was introduced. The indexes are dated 1946, 1960, 1964, 1966, 1977, and 1994, and cover the major functions of the Laboratory such as administration, budget and finance, facilities and construction, health and safety, research and development, personnel, security, and waste disposal.

Data Elements: 6

Division Catalogs, 1951-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 48 3-ring binders, 7 cu. ft.

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: N/A

Medium: Paper

Scanning Suitability: Not entirely suitable; contains handwritten entries

Duplication: Information prior to 1976 can be found in the ORNL Register, TM Register, and the indexes to Central Files Memoranda. After 1976, information is contained in the TIDD database.

Arrangement: Alphabetical by division and program report, numerical by ORNL or CF number, but not consistent

Originating Office: Various divisions

Finding Aids: N/A

Disposition Authority: N/A

Series Description: This record series, comprised of catalogs, provides the reports and memoranda generated by division. They give the ORNL/TM or CF report number, author, title, date issued, and the program and progress reports for a division. The program progress reports include the author, the TM or CF number and the date. Occasionally, the catalogs note when a division changed names or was dissolved. Dates are not always consistent throughout the binders. Some include information on conferences that staff attended. The majority of the catalogs date from the 1970s and 1980s.

Data Elements: N/A

Index to Author Cards, 1947-1976

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 64 3-ring binders, 16 cu. ft.

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: N/A

Medium: Paper

Scanning Suitability: Not suitable; contains brittle paper

Duplication: Unknown

Arrangement: Alphabetical by author, numerical by card number

Originating Office: Information Management Services, Laboratory Records

Finding Aids: No

Disposition Authority: N/A

Series Description: This record series consists of index cards arranged alphabetically by author. The cards provide the author's name, the report number, the date the report was produced, the title, and a brief description of the report.

Data Elements: N/A

Index to Central Files Memoranda, 1940-1976

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 16 books, 12x18 inches each

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; the indexes are handwritten

Duplication: None

Arrangement: Chronological by year, numerical by file code

Originating Office: Information Management Services, Laboratory Records

Finding Aids: N/A

Disposition Authority: N/A

Series Description: This record series consists of 16 index books to the records housed in the Central Files. The books index reports, letters, and memoranda sent to Central Files from 1940 through 1976. The index information consists of the CF memoranda number, date the document was numbered, date of the document, subject, classification, author, intended recipient, and number of copies. The dates included are 1940-1943, 1944, 1945, 1946, 1947, 1948-1949, 1950-1951, 1952-1959, 1960-1961, 1962-1963, 1964-1966, 1967-1968, 1969-1970, 1971-1972, 1973-1974, 1975-1976.

Data Elements: N/A

Index to Laboratory Classified Notebook Register 1949-1994

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Declassified; vault is a security classified area

Volume: 4 books, 8.5x11 inches each

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: N/A

Medium: Paper

Scanning Suitability: Not suitable; indexes are handwritten

Duplication: None

Arrangement: Numerical by notebook number

Originating Office: Information Management Services, Laboratory Records

Finding Aids: N/A

Disposition Authority: N/A

Series Description: These registers are indexes to Confidential Restricted Data (RD) and Secret RD laboratory notebooks numbered 3481-6314. They provide the author, date, in some cases the division and building, the final disposition of each notebook, and the destruction date, if applicable.

Data Elements: N/A

ORNL Register 1-4397, 1948-1969

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 book, 12x18 inches

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; index is handwritten

Duplication: None

Arrangement: Numerical by report number

Originating Office: Information Management Services, Laboratory Records

Finding Aids: N/A

Disposition Authority: N/A

Series Description: This record series is an unclassified index to the formal reports produced at ORNL from 1948 to 1969. The documents are primarily progress reports, semi-annual reports, and monthly reports for the various divisions, as well as study and project reports. The description gives the document number, date the number was assigned, date of the document, date issued, originating division, author, subject, number of copies distributed both external and internal, and the classification level.

Data Elements: N/A

ORNL Technical Research Notebook Card Index 1948-1994

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205, desk of vault custodians

Access Restrictions: Unclassified

Volume: 2 4-drawer card files

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: N/A

Medium: Paper

Scanning Suitability: Not entirely suitable; this series includes cards with handwritten notes

Duplication: None

Arrangement: Divided into two categories, active personnel and terminated personnel, and arranged alphabetically by the individual's surname.

Originating Office: Information Management Services, Laboratory Records

Finding Aids: N/A

Disposition Authority: N/A

Series Description: This record series consists of 3"x5" index cards used to track laboratory notebooks assigned to researchers to document their technical work at ORNL. Each notebook bears a unique identifying number. The cards provide a record of all notebooks assigned to each individual, the date a notebook was assigned, and, if applicable, the date it was returned to the custody of the Laboratory (required upon employee retirement or termination). The cards also identify the division in which the individual worked and the date of termination for terminated personnel.

Data Elements: 8, 25, 31

ORNL Waste Tracking System (WTS), 1963-Current (1994)

Location: ORNL, Building 3001

Access Restrictions: Unclassified; program access restrictions apply

Location of Codebooks and Manuals: Building 3130 and 3047

System Control or Other ID No.: N/A

Location/Volume of Storage Media: Building 3130
10

Hardware/Software: VAX using Rally Application Programming

Estimated Activity: Daily

Office/Program Supported by the System: Document Management Center (DMC)

Originating Office: Waste Management and Remedial Action Division

System Description: The ORNL electronic waste tracking system is used to track radioactive solid and hazardous waste. It includes information on generation, storage, treatment, and disposal, as well as health physics data. Indexed fields include generator number, badge number, dates, isotopes, document determination methods, item numbers, container numbers, process categories, and waste categories. DMC personnel update the system on a daily basis; the information is uploaded to the Central WTS nightly. The system is backed up on a weekly and a nightly basis with backup stored in Building 3130.

Disposition Authority: N/A

Data Elements: N/A

Records Center "BLUREC" Database, 1940-1993

Location: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; database is located in a security classified area and is operated by Lab Records staff only

Location of Codebooks and Manuals: Rm. H204 office area

System Control or Other ID No.: N/A

Location/Volume of Storage Media: Back-up floppy disks stored in Rm. H205 in Jay Flaherty's area

Hardware/Software: Northgate 386-20/dBase IV

Estimated Activity: Weekly

Office/Program Supported by the System: Laboratory Records, Records Center

Originating Office: Information Management Services, Laboratory Records

System Description: The "BLUREC" database maintains up-to-date records on individual boxes stored in the Records Center. Data provided for each box includes the Martin Marietta Energy Systems (MMES) schedule number, the numerical designation for the originating department, the name of the individual transferring the boxes to the Records Center, the date the box was received, a brief description of the records, the quantity, the Records Center box number, the Federal Records Center box number (used only after records have been sent to the Atlanta Federal Records Center), the date of transfers to Atlanta, the scheduled disposition date, the actual disposition date, the review date, and the approval status. Records are not erased when boxes are transferred, destroyed, or returned to the originating office. Box numbers are reused when a box is transferred to the Federal Records Center, destroyed, or returned to the originating office. Records Center staff do not usually maintain a hard copy of information contained in this data base. "BLUREC" generates a variety of reports, can be searched on all fields, and is updated as needed.

Disposition Authority: N/A

Data Elements: 120

Solid Waste Information Management System (SWIMS), 1962-Current

Location: ORNL, Building 3001 Document Management System

Access Restrictions: Unclassified; access to this system is restricted to DMC staff with a password

Location of Codebooks and Manuals: with the SWIMS manager building 3001

System Control or Other ID No.: N/A

Location/Volume of Storage Media: Building 3001 on optical disk and Bernoulli

Hardware/Software: PC based with Knowledgeman

Estimated Activity: Daily

Office/Program Supported by the System: Waste Management Operations Section Document Management Center

Originating Office: Waste Management and Remedial Action Division, Waste Management Operations Section

System Description: The SWIMS system tracks the packaging, shipping, and disposal of radioactive solid waste. Document Management Center staff manually enter data from forms UNC-2822, UNC 2822-A, UNC 2822-B, UNC-16114, TX-5352, and TX-5352A. These forms note the type of waste, content of the waste, activity levels, packaging information, health physics data and certifications, and storage and disposal information. Fields include buildings, storage locations, isotopes, generator badge numbers, and dates. Reports can be generated in any format as well as in two standard forms. Summary reports contain only a summary of the documents for the date span listed; they do not provide data entry information as do full reports. Charge reports document the per-drum costs and identify the corresponding documentation and related dates. Electronic copies can be produced. The system is backed-up as necessary, with back-ups kept in buildings 3001 and 3130.

Disposition Authority: N/A

Data Elements: N/A

Technical Information Document Database (TIDD), 1974 to Current

Location: ORNL, Building 4500N, Rm. H205

Access Restrictions: Unclassified

Location of Codebooks and Manuals: Virginia Norman, Rm. H205

System Control or Other ID No.: N/A

Location/Volume of Storage Media:

Hardware/Software: IBM mainframe 3090/ DB2 located at K-25

Estimated Activity: Daily

Office/Program Supported by the System: Laboratory Records, Records Center

Originating Office: Information Management Services, Laboratory Records

System Description: Established in 1974, the Technical Information Document Database system tracks all unclassified records received by ORNL's Laboratory Records including technical reports, memoranda, published presentations, and journal articles. Photographs and drawings are not included on this system. A limited number of documents received prior to 1974 may also be found on the system. Data fields can be searched by author, division, title, classification, classification date, copy number, report or document number, type of document, and distribution and publication information. Hard copies of all or part of the database can be produced as needed. The system is updated daily and backed-up by the Computer Applications Division located at K-25.

Disposition Authority: N/A

Data Elements: N/A

Technical Memorandum Register, September 1961-September 1970

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 book 12x18 inches

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; index is handwritten

Duplication: None

Arrangement: N/A

Originating Office: Information Management Services, Laboratory Records

Finding Aids: N/A

Disposition Authority: N/A

Series Description: The Technical Memorandum Register is an index to the scientific and technical reports and memoranda issued by various divisions between 1961 and 1970. The index provides the document number, date assigned, date of document, date issued, author, classification level, number of copies received, and remarks. The documents are comprised of monthly and quarterly division reports and reports of experimental activity and results.

Data Elements: N/A

Unclassified Notebook Register for Classified Notebooks A-598 through A-9799G, 1949-1981

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 2 8.5x11-inch notebooks, approximately 0.50 inches

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: N/A

Medium: Paper

Scanning Suitability: Not suitable; register is handwritten

Duplication: Unknown

Arrangement: Numerical by notebook number

Originating Office: Information Management Services, Laboratory Records

Finding Aids: N/A

Disposition Authority: N/A

Series Description: These registers are unclassified indexes to the classified scientific laboratory notebooks numbered A598-A9799G maintained by scientists from various divisions. They provide the notebook number, the author, the building number, division, and the date.

Data Elements: N/A

Waste Management and Remedial Action Document Management System, 1956-Current

Location: ORNL, Building 3001

Access Restrictions: Unclassified

Location of Codebooks and Manuals: Building 3011

System Control or Other ID No.: N/A

Location/Volume of Storage Media: Bldgs. 3001, 3130

Hardware/Software: Optical disk, clipper

Estimated Activity: Daily

Office/Program Supported by the System: Document Management Center

Originating Office: Waste Management and Remedial Action Division

System Description: This electronic system tracks and stores division documentation including quality assurance plans, controlled operating procedures, drawings, logbooks, and administrative information. Topics include waste acceptance criteria, system requirements, operating data, vendor data, and safety analyses. The system can be searched and reports generated on a number of identifiers such as title, issue date, external identifier, distribution names, copy numbers, document levels, sponsors, and physical location. The system is updated daily using information provided on Document Entry Requests, form TX-5307(DMC-CP 5/20/93), or Document Change Requests, form TX-5308 (DMC-CP 5/28/93).

Disposition Authority: N/A

Data Elements: N/A

Environmental Analytical Laboratory Records, 1986-1989

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rms. A208, A224, H204

Access Restrictions: Unclassified; arrangements must be made for access to these rooms. Room H204 is a security classified area

Volume: 34 cu. ft.

Accession or Other ID Number: Schedule 3390-55-1

Condition: Good

Container Numbers: 343-344, 410, 414, 782-785, 866-868, 870-872, 887-889, 891, 910, 947-950, 952-953, 957, 1432, 1435-1437, 1692-1693, 2016, 2510

Medium: Paper

Scanning Suitability: Not entirely suitable; contains handwritten forms and 8.5x14 inch computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division, Environmental Analytical Laboratory

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains analyses conducted by the Environmental Analytical Laboratory, also known as the Environmental Analysis Laboratories. Files are arranged numerically by request numbers from 6926 to 11388. Each file generally contains a "Request for Analytical Services," a "Control Worksheet", and a computer printout of results. Information includes the request number; the name, building, and phone number of the requestor; the desired analyses; concentration information; the name or initials of the person conducting the analysis; the sample code; original sample size (often given in milligrams); the dilution factor; the aliquot size; curve readings; completion date; and the results, which are often expressed in nanograms per milliliter. Some files also include graphs of results. Substances frequently appearing in this series include mercury, lithium, cerium, potassium, sodium, aluminum, magnesium, and organic acids. Isotopic analyses, such as for cesium-137, are infrequent but do appear among these records.

Data Elements: 8, 31, 95, 103

Fish Tissue Analysis Records, 1984-1986, 1988-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 0.25 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: 3023, 3027-3028, 3032

Medium: Computer paper in binders

Scanning Suitability: Not suitable; contains 11x14 inch continuous feed computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Fish Tissue Analysis Records contain printouts of analytical runs on fish tissue by the Chemical and Physical Analysis Laboratory, the Environmental Analysis Laboratory, the Low Level Radiochemical Analysis Laboratory, and the Organic Analysis Laboratory for the Environmental Surveillance section of the Office of Environmental Compliance and Documentation. Each entry includes the request number, the matrix, the frequency of analysis, the customer identification number, a description of the material being tested, the date and time sampled, the type of analysis run, the procedure number, the completion date, and results. Chemicals tested include cobalt-60, potassium-40, strontium, PCBs, mercury, and cesium-137. The printouts do not indicate the source of the fish.

Data Elements: 103

K-25 Water Sample Analysis Records - Low Level Radiochemical Analysis, 1987

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 2 inches

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: 3028

Medium: Computer paper in plastic binders

Scanning Suitability: Not suitable; contains 11x14 striped, continuous feed computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains computer printouts of low-level radiochemical analyses performed by the Analytical Chemical Division on water samples taken on the K-25 site for the Environmental Surveillance section of the Office of Environmental Compliance and Documentation. Information provided for each sample includes the sample identification number, the customer's name, the request number, the date received, the charge number, the sample matrix, the series, the date of report, and comments on units and concentration factors. Analyses include tritium, cobalt-60, cesium-137, americium-241, curium-244, plutonium-239, gross alpha, gross beta, total strontium, and iodine-131, with results usually expressed in becquerels per liter (Bq/l). There is no indication of the exact sampling location.

Data Elements: 103, 124

Low Level Radiochemical Analysis Laboratory Records, 1981-1992

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rms. A208, A224, H204

Access Restrictions: Unclassified; arrangements must be made for access to these rooms. Room H204 is a security classified area

Volume: 106 cu. ft.

Accession or Other ID Number: Schedule 3390-27-1

Condition: Good

Container Numbers: 331-342, 374-376, 378-380, 411-413, 522-528, 561, 572-579, 639, 861-862, 1087-1095, 2267-2269, 2270, 2591-2606, 2681-2686, 2875-2882, 2884-2890, 2906-2909, 2911-2914, 2916, 3270-3276

Medium: Paper

Scanning Suitability: Not entirely suitable; contains 11x14 inch computer paper and handwritten forms and worksheets

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division, Low Level Radiochemical Analysis Laboratory

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series consists of Low-Level Radiochemical Analysis Laboratory files. The filing system is numerical and ranges from 1041 to 16186. Documents include "Request for Analytical Services"; "Results of Analysis," usually in the form of a computer printout; a "VAX/VMS Low-Level Radiochemical Analysis Report"; proportional counting worksheets; and analytical worksheets. Earlier files may contain "Analytical Chemistry Data - Low Level Radiochemistry Analyses." Information consists of the Analytical Chemistry request number, the project number, the series, the customer's name and location or department, sample identification numbers, frequency, material description, sample date and time, analytes to be tested for, detectors used, detection limits, quantity or volume of sample, elapsed time, and results. Depending on the matrix and the analyses conducted, results may be expressed in counts per minute, counts per second, becquerels per kilogram (Bq/Kg), or becquerel per liter (Bq/l). Matrices include water, air, fish tissue, oil, sediment, milk, stack filters, soil, well water, and vegetation. Samples originate from Solid Waste Storage Area 6, Waste Area Groups 1 and 7, and from buildings and sites throughout the Oak Ridge Reservation. Analyses conducted include gross alpha, gross beta, cesium-137, iodine-131, iodine-133, iodine-129, lead, plutonium-238, plutonium-239, uranium-234, uranium-235, uranium-238, thorium-228, total strontium, and carbon-14.

Data Elements: 8, 95, 103, 124

Milk Sampling Analysis Records, 1988, 1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1 inch

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: 3023, 3026

Medium: Computer paper in binders

Scanning Suitability: Not suitable; contains 11x14 inch continuous feed computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This computer-generated record series consists of low-level radiochemical milk sample analyses conducted by the Analytical Chemistry Division for the Environmental Surveillance section of the Office of Environmental Compliance and Documentation. Each entry has fields for the customer's identification, location, matrix, material description, lab number, frequency, date sampled, and results in becquerels per liter (Bq/l). Analyses were run for iodine-131 and total strontium. There is no supporting documentation to indicate where the samples were taken.

Data Elements: 103, 118

Radiochemical Analysis Sample Logbooks, 1974-1986

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 1 cu. ft.

Accession or Other ID Number: Schedule 3390-27-1

Condition: Fair

Container Numbers: 2271

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten data in pencil

Duplication: Unknown

Arrangement: Chronological

Originating Office: Analytical Chemistry Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series consists of eight three ring binders containing logsheets listing samples analyzed. There is no indication as to the laboratory conducting the analyses. The samples are numbered 1 through 35735 and date from January 15, 1974 through August 8, 1986. Each entry contains the log number, the date received, the sample code, the requestor's name, the charge code, the type of analysis, the date completed, remarks, the report number, and preparation information. Some binders contain sections on backlogged work with entries stating when each analysis was completed. Analyses include alpha, beta, and gamma scans; plutonium; americium; uranium-233, -234, and -238; cesium-137; and iodine-131.

Data Elements: 8

Results of Analyses - 2026 Radiochemical Analysis, 1982-1987

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rms. A224, H204

Access Restrictions: Unclassified; arrangements must be made for access to these rooms. Room H204 is a security classified area

Volume: 22 cu. ft.

Accession or Other ID Number: Schedule 3390-38-1

Condition: Good

Container Numbers: 853-859, 863-865, 1080-1081, 2896-2903, 3051-3052

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten forms and oversize 8.5x14 inch computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division, Analytical Services

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains requests for radiochemical analyses, analytical reports, and related documentation. Files are arranged numerically and range from 3050 to 6560. Most files pertain to counting analyses for uranium and plutonium, although cesium-137 analyses appear infrequently. Each folder is labelled with the request number and the last name of the person making the request. Documents present in each file may include "Request for Control Analysis" or "Request for Analytical Services," both for samples with less than 50 milligrams concentration of fissionable material; "Control Worksheet-1"; "Control Worksheet-3 X-Ray Fluoresence Analysis"; "Counting Data Sheet"; and a computer printout of results. Information includes the name, building, and phone number of the requestor; date submitted to the lab; original sample size; charge number; sample code; desired analysis; series; analyst's name or initials; completion date and time; supervisior's approval; concentration estimate; curve factor; nature and estimation of activity; concentration of all constitiuents of the sample; dilution information; aliquot size; absorbance; net counts; detector type; live time seconds; voltage; amp setting; results; and

Series Description (continued)
comments. Some files contain analytical results for gross alpha surveys. Matrices tested include liquids, air, and dust. Results are expressed in becquerels per gram (Bq/g); becquerels per milliliter (Bq/ml); grams per liter (g/L); or counts per minute per milliliter (c/m/ml). Graphs of analytical results are included.

Box 2902 contains a file titled "Inactive Tank Farm Data Sheets (Misc.)" which includes a "Checklist for Analysis of Inactive Waste Storage Tank Liquid Samples" consisting of a list of possible analyses; spaces for information relating to the distribution of samples, completed analyses, and results reported; sampling date; tank identification; sample identification numbers; and analytical request numbers. A notebook titled "ORNL Inactive Waste Tanks, Sampling and Analysis Samples" lists the date logged, the sample code, the request number, the date and amount of sample transferred, and the receiver's initials. The analytical information for the samples mentioned in these two documents is found in boxes 2902 and 2903.

Data Elements: 8, 95, 103

Sample Analysis Records, 1988-1991

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: Approximately 9.75 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: 3022-3032, 3058-3059

Medium: Paper in plastic and paper binders

Scanning Suitability: Not suitable; contains 11x14 inch computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Sample Analysis Records consist of large-format computer printouts of analytical results for water, soil, sludge, groundwater, and grass samples taken from a variety of sources and analyzed by the Chemical and Physical Analysis Laboratory, the Organic Analysis Laboratory, the Low Level Radiochemical Analysis Laboratory, and the Environmental Analysis Laboratory for the Environmental Surveillance section of the Office of Environmental Compliance and Documentation. Entries generally contain the request number, the sample matrix, the frequency of analysis, the customer identification number, a description of the material tested, the date and time the sample was taken, the type of analyses run, the procedure number, the completion date, and results. Analyses conducted include toxicity, total sulphides, cyanide, gross alpha, solids, and oil and grease. Radionuclides frequently tested for include beryllium-7, cobalt-60, cesium-137, potassium-40, and plutonium-238 and -239 with results usually expressed in becquerels/kilogram (Bq/Kg) or micrograms per milliliter (ug/ml). Sites tested include Solid Waste Storage Area 6 and Waste Area Group 1.

Data Elements: 103, 118, 124

Transuranium Analytical Laboratory Records, 1983-1993

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rms. A208, A224, H204

Access Restrictions: Unclassified; arrangements must be made for access to these rooms. Room H204 is a security classified area

Volume: 166 cu. ft.

Accession or Other ID Number: Schedule 3390-38-1

Condition: Good

Container Numbers: 838-842, 873-886, 911-912, 987-990, 992-1004, 1006, 1048-1051, 1052-1056, 1066-1068, 1070-1073, 1075, 1084, 1107-1108, 1444-1445, 1447-1448, 1460-1465, 2671-2678, 2680, 2726, 2737-2745, 2937-2942, 3033-3040, 3130-3134, 3286-3289, 3291-3294, A162-A166, A169-A202, A494-A498, A507-A510, A522-A523, T95

Medium: Paper

Scanning Suitability: Not entirely suitable; contains handwritten forms and 8.5x14 inch computer paper, and graphs

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division, Transuranium Analytical Laboratory

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series consists of analytical requests, reports, and related materials for analyses conducted by the Analytical Chemistry Divison Transuranium Analytical Laboratory. Request numbers range from 4186 to 13127. Most of the analyses conducted by the laboratory measure levels of gross alpha and gross beta activity, cobalt-60, and cesium-137, as well as several other nuclides. Most samples are marked "tank farm" although the location of the tank farm is not specified. Documents include "Request for Control Analysis" or "Request for Analytical Services" for samples with less than 50 milligrams concentration of fissionable material; "Control Worksheet-1"; "Control Worksheet-2"; "Tank Farm Analysis" worksheet; "Tank Farm Data Sheet"; "Counting Data Sheet"; and a computer printout of results. Information includes the request number; the name, building, and phone number of the requestor; submission and completion date; the charge number; the sample code; series number; original sample size; the desired analysis; analyst's name or initials; supervisor's approval; an estimation of the concentration; the nature and estimation of activity; concentration of all constituents of the sample; dilution information; aliquot size; solvents added; titre information; pH; Ludlum and Tennelec counter readings; time; scale; counts; nuclide information; detectors used; sensitivity levels; and comments. Results are expressed in becquerels/liter (Bq/l); parts per million (ppm); milligrams per milliliter (mg/ml); counts/minute/milliliter (c/m/ml); counts/minute (cpm); BKG; CCB; and becquerels/milliliter (Bq/ml). Files for lower request numbers may include a "Department of Environmental Management Charcoal Collection Data Sheet" providing information such as sample location, integrator, and date and time. Some files include graphs of the results.

Data Elements: 8, 95, 103, 124

Transuranium Laboratory Calibration Records, 1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to this room

Volume: 1 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: A524

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Chronological

Originating Office: Analytical Chemistry Division, Transuranium Analytical Laboratory

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains computer printouts of the running of blanks and RNSI samples through detectors G1 and G2. Each report lists the analyst's name, the detector used, the date and time, batch code, quantity, sample type, sample geometry, acquisition time, elapsed live time, and elapsed real time, tabular results (with no units of measurement but information on energy), area, background, full width at half-maximum (FWHM), channel, efficiency percentage, counts per second, percentage error, and fit. "Nuclide Line Activity Reports" are also part of each report. They list the nuclide name, energy, percent abnormality, percent efficiency, uncorrected becquerels per liter (Bq/l), decay corrected Bq/l, 2-Sigma percent error, status, and final mean for valid peaks. Cesium-137 appears in some of the "Nuclide Line Activity Reports."

Data Elements: 95, 114

Transuranium Laboratory Daily Quality Assurance Reports, 1990

Location: 1. Active:
2. Inactive: ORLN, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to this room

Volume: 1 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: A525

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Chronological

Originating Office: Analytical Chemistry Division, Transuranium Analytical Laboratory

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Transuranium Laboratory Daily QA Reports consist of computer printouts titled "VAX/VMS Quality Assurance Report V1.1." Each report lists the date and time the report was generated, the quality assurance file name, the sample identification, sample quantity, sample date, acquisition date, elapsed live time, and elapsed real time. Data provided consists of parameter description, energy, value, deviation, and any flags (which appear as blanks, "investigate," or "not found"). Parameters covered include alpha, beta, and gamma standards, backgrounds, and peaks. These records do not identify the equipment being tested.

Data Elements: 95, 114

Water Sample Analysis Records, 1989

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: <1 inch

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: 3028

Medium: Paper

Scanning Suitability: Not suitable; contains 11x14 inch computer paper

Duplication: Unknown

Arrangement: Numerical by request number

Originating Office: Analytical Chemistry Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains analyses of low-level radioactivity water samples from Solid Waste Storage Area 5 conducted in 1989 for the Environmental Surveillance section of the Office of Environmental Compliance and Documentation. Samples were tested for tritium, gross alpha, and gross beta activity. Information contained in these files includes customer name and identification number, the request number, the series, date received, charge number, department number, sample matrix, sample date, and report date.

Data Elements: 103, 124

White Oak Dam Field Data Records, 1989-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 2 inches

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: 3017

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten forms

Duplication: Unknown

Arrangement: Chronological

Originating Office: Analytical Chemistry Division; Office of Environmental Compliance and Documentation

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series consists of weekly water sampling data for the White Oak Dam. Each record consists of a "Chain of Custody Form," a "Request for ORNL Analytical Services," and a printout of analytical results. The chain of custody form identifies the sample number, the date and time the sample was taken, the sample type, container, any preservatives used, and the type of analysis to be done (i.e., gross alpha or gross beta), as well as signatures and dates acknowledging receipt or relinquishment of samples. The "Request for ORNL Analytical Services" identifies what was to be done with each sample and whom to contact with results. The printout of results shows alpha and beta activity in counts per minute.

Data Elements: 8, 103, 118

Construction Request Records, 1948-1961

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 8 cu. ft.

Accession or Other ID Number: Schedule 3200-11-1

Condition: Good

Container Numbers: 2502-2509

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by construction request (CR) number

Originating Office: Central Management Office, Director's Office

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Construction Request Records document the funding of new construction and the modification of existing sites and buildings throughout the Oak Ridge Reservation. Documents and information include change recommendations; construction requests providing a description of the project, the amount of money requested, and justification for the work; memoranda and correspondence; completion reports; and closing statements of cost. Drawings for some facilities are included. Unique construction request (CR) numbers were assigned to each project. Some facilities of interest include:

<u>At X-10:</u>
706 Area - slug carriers and hot off-gas system (Bx. 2502, 2503)
RaLa Production Plant (Bx. 2502)
Multi-Curie Fission Products Plant (Bx. 2505, 2506)
New I-131 Processing Plant (Bx. 2503)
Building 908 North-South Tank Farms (facilities for the preparation of Cs-137) (Bx. 2503)

<u>At Y-12:</u>
Building 9201-5 Li-6 Production Facility (Bx.2502)
White Oak Dam Upgrades (Bx. 2504)

Data Elements: 6, 88, 117

Director's Subject Files, 1946-1989

Location: 1. Active:
2. Inactive: ONRL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 375 linear feet on 125 open shelves; 165 cu. ft. in boxes

Accession or Other ID Number: Schedule 3200-11-1

Condition: Fair

Container Numbers: 1979: 2442-2458
1980: 2459-2466, 2468-2471, 2473-2476, 2478-2479
1981-1982: 1967-1992
1983: 1717-1720, 1722-1725, 1727-1730
1984: 1492, 1497-1498, 1502-1505, 1507-1510, 1514, 1993
1985: 2077-2091
1986-1987: 3315-3345
1988: 3347-3349, 3351-3354, 3356-3361, 3365-3366, 3370
1989: 1477-1479, 1482-1484, 1493-1496, 1499-1501, 1506, 1511, 1515-1516

Medium: Paper

Scanning Suitability: Not entirely suitable; contains poor copies, illustrations, and bound items

Duplication: Microfiche copies are located in Building 4500N, Rm. H205, container X-66171, circa 1940-1957, 1983-1985

Arrangement: Chronologically, then alphabetically by subject

Originating Office: Central Management Office, Director's Files

Finding Aids: Director's Files Indexes 1946-1994

Disposition Authority: N/A

Series Description: The Director's Subject Files are the record copies of incoming and outgoing correspondence of the Director and Associate Directors from 1946 to 1989. Active files are maintained in the office for three years prior to being sent into storage. Currently, the records for 1990 are being processed for transfer to storage. All records prior to 1980 are stored in file folders on open shelving in the H204 vault. Records dated 1980 and later are stored in cubic-foot boxes in the H204 vault. This series is arranged first by date, then alphabetically by subject until 1977 when a numeric filing scheme was instituted. File indexes exist for 1946-1950, 1960, 1964, 1966, 1977, and 1994. The only way to access the information in these files is to use the filing guide for the appropriate time period to identify filing designations of interest and then search the shelves and boxes for the appropriate material. The files for the 1940s through the mid 1950s are not in order due to misfiling after copying on microfiche. The microfiche may be found in the Lab Records vault, Rm. H205.

Series Descriptions (continued)

Subseries pertinent to research on isotope use and production at ORNL are:

Operations/RaLa 1948-1956
This subseries consists of five file folders titled Operations Division/RaLa that contain records documenting the production of radioactive lanthanum (RaLa) at ORNL. Topics covered include problems with sealing concrete floors in work areas, descriptions and flowsheets of the processes used, correspondence between Oak Ridge and the AEC concerning continuing RaLa production at ORNL versus transfer to another facility, status reports of production runs (most written by E.J. Whitkowski), and transportation and shipment of RaLa. Correspondence and internal memorandums form the bulk of the subseries.

Publications/Isotopes 1946-1953
The Publications/Isotopes subseries consists of approximately one-half cubic foot of material pertaining to ORNL's sale of isotopes to scientific, industrial, and medical concerns. It includes copies of reports written under contract to ORNL concerning the manufacturing and marketing of isotopes for commercial uses. Also included are catalogs and price lists of stable and radioactive isotopes produced during 1951-1952 containing information on the frequency that individual isotopes were shipped. Similar material, such as information and work requests for lithium 1962-1963, can be found under the heading Isotopes/Sales and Distribution.

Special Materials/Lithium and Cesium
The approximately six cubic feet of files that make up the Special Materials subseries contain information on a variety of radioactive substances. Document types included in this subseries are correspondence, procurement requests, and inventories. Information concerning new methods of production, cost estimates, pricing for outside sales, and requests for special work can be found. Folders concerning lithium appear in the 1940s and 1950s while those dealing with cesium appear in the 1960s. Similar files can be found under the SS (Source and Special) Materials heading. The file designation changed in the 1970s to Nuclear Materials (NM)/Services and NM/Isotopes R&D (Research and Development).

Waste Disposal, see also Health Physics/Waste Disposal
The Waste disposal subseries consists of approximately five cubic feet of records pertaining to the disposal of both radioactive and nonradioactive wastes produced at ORNL. The documents span the collection and can be found under several different headings. Initially filed under Waste Disposal and Decontamination, the subseries subsequently bore the names Health Physics/Waste Disposal, Waste Disposal-General, and Nuclear Materials/ORNL Waste Storage and Disposal. Recommendations, correspondence, proposals, meeting minutes, and reports make up the bulk of the subseries. Topics covered include "Disposal of High Level Radioactive Liquid Wastes in Terrestrial Pits - a Sequel" circa 1958, the hydrofracture pilot plant, the evaluation of radioactive sludge in ORNL central waste tanks, and information concerning the shipment of radioactive waste to ORNL.

Data Elements: 6, 88, 89, 103, 115, 117, 120

Director's Subject Files Microfiche Copy, 1940-1985

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 3.5 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: Container X-66171, 2 drawers

Medium: Paper

Scanning Suitability: Not suitable

Duplication: Hardcopy is located in Records Center, Rms. A208, A224, and H204

Arrangement: Numerical by microfiche number

Originating Office: Central Management Office, Director's Files

Finding Aids: N/A

Disposition Authority: N/A

Series Description: This microfilm contains the files of various directors, including C. E. Larson, J. H. Lum, C. N. Rucker, P. Sandidge, M. D. Whitaker, and E. P. Wigner. See the Director's Subject Files series description for more detailed information.

Data Elements: 6, 88, 89, 103, 115, 117, 120

Hot Cell Facility Construction Records, 1956-1966

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 0.2 cu. ft.

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: 2488

Medium: Paper

Scanning Suitability: Not entirely suitable; contains oversize drawings and copies

Duplication: Unknown

Arrangement: Arranged by reactor type and/or facility name

Originating Office: Central Management Office, Director's Office

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series documents ORNL's need for heavily shielded facilities for studying, processing, and handling highly radioactive materials. Ellery R. Fosdick's "AEC Hot Cells - Their Design, Shielding, Windows, Special Equipment and Construction Cost" details the design of Oak Ridge hot cells in buildings 3019, Chemical Processing Pilot Plant; 4501; 4505, Isotope Research Cells; 3025; 3029, Multi Kilocurie Loading Cell (includes mention of cesium-137); and 3028, Iodine-131 Processing Cell. Descriptions of the facilities, drawings, and photographs are included as well as reports that describe the available facilities at ORNL, provide cost information, and discuss possible sites for new hot cell facilities. Documents include memoranda, intra-laboratory correspondence, and reports.

Data Elements: 6, 88, 117

J. H. Lum's Subject Files, 1946-1947

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 13 cu. ft.

Accession or Other ID Number: Schedule 3200-11-1

Condition: Fair

Container Numbers: 487-496, 498-499, 529

Medium: Paper

Scanning Suitability: Not entirely suitable; contains faded copies, colored and fragile paper

Duplication: Microfiche copies are located in the Building 4500N, Rm. H205 vault, container X-66171

Arrangement: By subject, then chronologically within each file

Originating Office: Central Management Office, Director's Office

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains unorganized material from J. H. Lum, M. D. Whitaker, and Gregory Brent. Most of the documents appear to be Lum's personal files sent to storage. They contain correspondence, memoranda, progress reports, shipping records, and meeting minutes. Topics include general administrative matters, personnel issues, batch numbers of "product" sent to Los Alamos, and radioisotopes. Box 496 contains documents relating to the shipment of isotopes, including lists of isotopes sent to date and comments on shipping regulations, and a 1946 copy of a "Cost Estimate for Production of Radioactive Isotopes," addressing the underlying production costs including sections on iodine-131 and lanthanum-140. These records also contain internal correspondence and correspondence between Clinton Laboratory and Holabird and Root, the architectural firm providing architect/engineer services for the design of the new Radio-Isotopes Building (706-E). The correspondence addresses issues such as cost, facility requirements, number of people working in the building, and revisions and design changes. There are no actual construction records, such as blueprints, drawings, or accounting records, in this collection. The correspondence may be found in boxes 493 and 495.

Data Elements: 6, 88, 115

M. D. Whitaker's Subject Files, 1942-1945

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified, this room is a security classified area

Volume: 1 cu. ft.

Accession or Other ID Number: Schedule 3200-11-1

Condition: Fair

Container Numbers: 2501

Medium: Paper

Scanning Suitability: Not entirely suitable; contains oversized documents and faded copies

Duplication: Microfiche copies are located in Building 4500N, Rm. H205, vault container X-66171

Arrangement: None

Originating Office: Central Management Office, Director's Files

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains M.D. Whitaker's incoming and outgoing correspondence, memoranda, and progress reports. The series is unorganized, with folders untitled and documents loose within the box. The records deal with technical matters relating to ORNL's work in support of the Manhattan Project. Information on the separations process is included. Of particular interest are several documents relating to the RaLa process (also referred to as the barium-lanthanum process), including progress reports and research and development reports for July through November 1944, a memorandum on the recovery of "product" from lanthanum-140 production wastes, and a series of memoranda on the separation of barium-140 from UNH solutions. The Fluorine Generation Binder includes references to cesium.

Data Elements: 6, 88

Prescott Sandidge's Subject Files, 1943-1947

Location: 1. Active:
2. Inactive: ORNL Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 6 cu. ft.

Accession or Other ID Number: Schedule 3200-11-1

Condition: Fair

Container Numbers: 239-244

Medium: Paper

Scanning Suitability: Not entirely suitable; contains oversized items

Duplication: Microfiche copies are located in Building 4500N, Rm. H205, vault, container X-66171

Arrangement: Alphabetical by subject

Originating Office: Central Management Office, Director's Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains X-10 Assistant Executive Director Prescott Sandidge's subject files for the period 1943-1947. The files are arranged alphabetically by subject. There are several items in this collection pertaining to radioisotope production, dating from 1946 to 1947. The folder labeled "Holabird and Root" contains an unsigned copy of the letter contract with Holabird and Root for architectural and engineering services for the 706E building, and miscellaneous correspondence relating to the facility. A cost estimate may be found in "Expansion Program - Radioisotopes Building (Cost Estimates)." Folders labeled "Radioisotopes" contain press releases, correspondence, and memoranda concerning the shipment of radioisotopes to medical centers, production costs, and shipping regulations. The balance of the files deal with topics ranging from general administration and accounting to recreation.

Data Elements: 6

Unusual Incidents Records, 1948-1959

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1.75 cu. ft.

Accession or Other ID Number: Schedule 0202-1-10

Condition: Fair

Container Numbers: 137-138

Medium: Paper 1.25 cu. ft.; green plastic "soundscriber" disks .5 cu. ft.; approximately 10 photographs

Scanning Suitability: Not suitable; contains brittle paper

Duplication: Unknown

Arrangement: None, many documents are loose within the box.

Originating Office: Central Management Office, Shift Supervisor

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series documents incidents and accidents at Oak Ridge and emergency planning for the period 1948-1959. Included are minutes of staff meetings, accident reports, and a folder of documents relating to the history of emergency planning at Oak Ridge. Box 137 contains "Notifications of Unusual Conditions" which are warnings of transient hazards in a particular area and their associated dangers. A folder titled "3026D Incident 4/29/54" documents the release of radioactivity to the atmosphere after a radioactive lanthanum (RaLa) run. This folder provides information on the measurement of activity released to the atmosphere, areas contaminated (including an illustration), and badge number, name, and counts of exposed personnel. Green plastic "soundscriber" disks, approximately six inches in diameter and sleeved in paper jackets, which appear to be recordings of meetings or meeting minutes are included.

Data Elements: 8, 16, 31, 65, 68, 88, 103, 122, 124

[Paper on] Behavior of Iodine and Xenon in the Homogenous Reactor Test, November 6-10, 1961

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 61-7-55

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division

Finding Aids: Index to Central Files Memoranda, 1960-1961

Disposition Authority: N/A

Series Description: This paper, presented at the 1961 American Nuclear Society Winter Meeting, discusses the behavior of iodine and xenon in the Homogenous Reactor Test and the hazards of fission gas releases and estimated radiation doses associated with releases. The paper concludes with recommendations for filtering systems to reduce releases. Data tables provide information on assumed release levels associated with a 10 percent core meltdown, and concentration and dose information for krypton, xenon, and iodine isotopes.

Data Elements: 88, 116

Chemical Technology Department Monthly Progress Reports, 1948-1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 2.25 inches

Accession or Other ID Number: ORNL 176, 519, 523, 530, 580, 640, 663, 708, 721, 936

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs, tables, and charts

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office:Chemical Technology Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: These reports provide monthly summaries of chemical processing activities at ORNL. The THP Metal Recovery, Redox, Dry Fluoride, RaLa, Purex, "23," and "25" chemical processes are discussed. With regard to RaLa operations, reports describe Barium Sulfate Precipitation, the One Column Versene Process, and the Elimination of Organic Color in the Product. Development, modification, and general RaLa operations are discussed as well.

Data Elements: 88

Chemical Technology Division Quarterly Progress Reports, 1949-1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 2.75 inches

Accession or Other ID Number: ORNL 268, 467, 530, 663, 763, 846, 936, 1000, 1061, 1141, 1311

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables and figures

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Chemical Technology Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This record series contains Chemical Technology Division Quarterly Progress reports summarizing the TBP process, the Purex process, the RaLa process, the "25" process, the Thorax process, the fluoride process study, plutonium reprocessing, Chalk River metal separation radiochemical waste studies, special equipment tests, new facilities, and personnel.

Data Elements: 88

Interim Record of Decision for the ORNL Waste Area Grouping 13: Cesium Plots, August 1992

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Internal Use Only; vault is a security classified area

Volume: 0.50 inch

Accession or Other ID Number: ORNL/M-2327, M-2390, M-2396, M-2397, M-2560, M-2561

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains diagrams and charts

Duplication: Unknown

Arrangement: Numerical by ORNL/M number

Originating Office: Chemical Technology Division; Radian Corporation for DOE Office of Environmental Restoration and Waste Management

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This report is the interim record of decision for Waste Area Grouping (WAG) 13 remediation actions taken by the Oak Ridge Reservation to bring the area into compliance with various local, state, and federal environmental regulations. It discusses the 1968 simulated nuclear weapons fallout study that contaminated the WAG 13 treatment plots with cesium-137. The report describes plans to reduce the health risk to humans by taking various clean-up actions, such as excavation of contaminated soil, storage of the contaminated soil and transfer to WAG 6, and the lining and back-filling of the excavation pits.

Data Elements: 89, 124

Iodine Correspondence, 1952-1956

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 52-10-75, 53-3-71, 56-2-81, 56-2-130

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables, diagrams, and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division, Chemical Development Section

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This record series contains correspondence and memoranda pertaining to iodine. Topics include the extraction of iodine at elevated temperatures; results, in counts per minute per milliliter, of analyses of samples drawn from the acid recovery vent scrubber furnace HCP-14; two methods of lowering the iodine content and controlling the zenon poisoning of homogenous reactors; and the iodine behavior experimental program with plans for further work on elemental iodine distribution coefficients, iodine valance states, dynamic loop studies, Homogenous Reactor Test studies, and xenon and krypton distribution coefficients.

Data Elements: 6, 88

Isotopes Project Technical Research Notebooks, 1955-1988

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to room.

Volume: 5 cu. ft.

Accession or Other ID Number: Schedule 3604-2-3

Condition: Fair

Container Numbers: 2729-2730, 2732-2734

Medium: Paper

Scanning Suitability: Not suitable; contains bound notebooks with handwritten entries

Duplication: No

Arrangement: Numerical by notebook number

Originating Office: Chemical Technology Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Isotopes Project Technical Research Notebooks, numbered 1 to 100, document research at ORNL from 1955 to 1988. The notebooks usually indicate the user's name, building, laboratory location, and activities. Information includes experiment notes, run notes, run dates, quantities of isotopes produced, drawings of apparatus, quantities of chemicals used, analytical reports, graphs, and radioisotope sample information as well as records concerning equipment calibration, maintenance, and repair. Notebook 003 includes a section on iodine-131 off-gas and the use of Hanford slugs. Other chemicals mentioned in the notebooks include lead, krypton-85, argon, and carbon.

Data Elements: 8, 31, 88, 89, 114-116

Pilot Plants Section Reports, 1949-1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Declassified; vault is a security classified area

Volume: 2.5 inches

Accession or Other ID Number: ORNL 490, 526, 592, 624, 675, 702, 741, 850, 885, 962A

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables and charts

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Chemical Technology Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This series consists of reports that describe the development and status of ORNL pilot-plants, including plants involved in the Purex process, Chalk River separations, and radiochemical waste processing. The ORNL Metal Recovery Unit and 23 Pilot Plant are also discussed.

Data Elements: 88

[Report on] Preliminary Design of an Iodine Removal System for a 460-MW Thorium Breeder Reactor, July 3, 1956

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 56-7-12

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs and diagrams

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division, Chemical Development Section

Finding Aids: Index to Central File Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This report describes and provides supporting equations for a revised design of an iodine removal system for the core of a 460-MW, two-region thorium breeder reactor. It expands on work presented in CF-56-2-81 by addressing xenon-135 poison levels and stripping rates. The report includes data regarding calculations, the iodine removal system, and xenon-135 poison levels. Graphs and schematic diagrams further depict the proposed removal system.

Data Elements: 88

[Report on] Preliminary Design of HRE-3 Iodine Removal System #1, February 17, 1958

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 58-2-66

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains diagrams and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division, Process Design Section

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This 1958 report describes a proposed system to decrease the level of xenon poison in the HRE-3 by removing the iodine precursor of xenon by distillation and concentration of the core solution. The report describes the processes, their equipment and energy requirements, and estimated effectiveness. A schematic diagram illustrates the process and a graph plots the estimated removal of iodine.

Data Elements: 88

RaLa Process Monthly Status Reports, 1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.50 inches

Accession or Other ID Number: CF 50-11-170, 51-1-128

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division

Finding Aids: Index to Central Files Memoranda, 1950-1951

Disposition Authority: N/A

Series Description: This record series contains reports regarding the RaLa process in the last two months of 1950. The reports discuss problems encountered, the Material Test Reactor (MTR) RaLa development, the status of construction of the 706D-Building, and personnel assignments. No information concerning individual runs or quantities produced is included.

Data Elements: 8, 34

RaLa Quarterly Reports, 1950-1952

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 4.25 inches

Accession or Other ID Number: CF 50-5-214, 50-5-215, 50-8-153, 50-8-170, 50-11-147, 50-11-153, 51-2-186, 51-2-203, 51-4-36, 51-5-24, 51-6-181, 51-6-189, 51-8-188, 51-8-229, 51-11-161, 51-8-155, 52-1-189

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division

Finding Aids: Index to Central Files Memoranda, 1950-1951; 1952-1959

Disposition Authority: N/A

Series Description: RaLa Quarterly Reports consist of reports on Rala Process-Unit Operations, the 706D Modification Project-Plant Design, and the MTR-B (Arco RaLa) Project Design.

Rala Process Quarterly Reports describe developments and improvements in ORNL Rala production, shipment, and waste treatment and disposal. The reports refer to notebooks, classified "Secret," that contain related experimental data.

The 706 D Modification Project-Plant Design Quarterly Reports detail ORNL's efforts to improve "the efficiency and operability" of the RaLa plant. Considered modifications include improvements in filter systems, ion exchange systems, and solvent systems. Rala shipment schedules to Los Alamos are discussed in relation to plant modifications, since many of the modifications were designed to meet the requirements of the Los Alamos facility. Construction phases are detailed along with proposed completion dates and progress updates. Engineering and drafting progress on the plant design is also discussed. Costs for modifications are given, and a list of design drawings is provided.

The MTR-B (Arco) Project-Design Quarterly Reports describe the development of a new Rala production facility built to meet the increased needs of the Los Alamos National Laboratory.

Data Elements: 88

[Report on] The Recovery of Cesium^{137} from Oak Ridge National Laboratory [ORNL] Radiochemical Waste, January 8, 1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inches

Accession or Other ID Number: ORNL-742

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Chemical Technology Division, Laboratory Section

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This 1951 report describes experiments which resulted in a "co-crystallization" method of removing large quantities of cesium-137 from ORNL waste solutions by using potassium aluminum sulfate. The report makes recommendations about the procedure's potential.

Data Elements: 89, 95

Weekly RaLa Meeting Reports, 1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.5 inches

Accession or Other ID Number: CF 51-7-54, 51-7-98, 51-7-139, 51-8-261, 51-7-6, 51-8-261

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemical Technology Division

Finding Aids: Index to Central Files Memoranda, 1950-1951

Disposition Authority: N/A

Series Description: This record series contains weekly RaLa meeting reports summarizing RaLa production activities at ORNL. Topics discussed include costs, plant modifications, development of the MTR RaLa process pilot plant, production yields in curies, and experiments conducted. The reports also discuss controversial issues regarding equipment, processes, and staffing.

Data Elements: 88

Chemistry Division Quarterly Progress Report, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.50 inches

Accession or Other ID Number: ORNL 229, 607

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs, tables, charts, and figures

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Chemistry Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: Quarterly Progress Reports describe activities of the Chemistry Division that include investigations of the nuclear and chemical properties of heavy elements in aqueous solutions and waste solutions, the nuclear and chemical properties of elements in fission production, general nuclear chemistry, radiochemistry, applied nuclear chemistry, physical chemistry and chemical physics, physical measurement and instrumentation, and analytical chemistry. The reports also discuss iodine releases during RaLa operations, radioiodine fission material, and progress in determining particulate radioactivity in air and pile exhaust.

Data Elements: 88, 116, 124

Determination of Iodine Behavior in the HRT, July 13, 1959

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 59-7-89

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemistry Division

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This 1959 report describes the continuing study of iodine behavior in the Homogenous Reactor Test. Studies examine the effect of tellurium on iodine activity ratios and cesium mass ratio analyses to determine the age of iodine. The report also describes efforts to minimize iodine losses during sampling operations. Graphs throughout the text illustrate study results.

Data Elements: 88

[Memorandum on] Iodine in Dissolver Solutions, February 16, 1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 51-2-89

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central File number

Originating Office: Chemistry Division, Process Design

Finding Aids: Index to Central Files Memoranda, 1950-1951

Disposition Authority: N/A

Series Description: This memorandum contains extractions from Hanford Progress Reports HW-19503 and HW-19739 concerning the removal of iodine from dissolver solutions. HW-19503 discusses iodine removal using sparging techniques and coprecipitation with cuprous iodide. Experimental results are presented with flow rates given in cubic centimeters per minute per milliliter and residual iodine expressed as a percent. HW-19739 reports the findings of research concerning the effect of cations, especially mercury, on the removal of iodine from dissolver solutions.

Data Elements: 88

[Report on] Iodine Retention Efficiencies at High Linear Flow Rates Through Small Charcoal Cartridges, November 14, 1963

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 63-11-38

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemistry Division

Finding Aids: Index to Central Files Memoranda, 1962-1963

Disposition Authority: N/A

Series Description: This 1963 report describes the equipment, sampling procedures, and analytical procedures employed to determine the efficiency and error rates for charcoal filters used to restrict off-gases containing iodine. It describes the construction of the charcoal cartridges and concludes that cartridge efficiency must be taken into account when estimating stack discharges. The report includes a "plot of Iodine-131 Distribution in Charcoal Cartridges" and a table of charcoal cartridge iodine collection efficiencies which list the percentage of iodine-131 removed from off-gases.

Data Elements: 119

[Report on] A Method for the Separation of Radio-Tellurium from Radio-Iodine, February 10, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: ORNL 94

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Chemistry Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This 1948 report contains information relevant to the determination of the ratio of radioactive tellurium within radioactive iodine-131 produced by the ORNL radioisotope program and a method for their separation. Sections concern the preparation of carrier solutions, details of the analytical procedures, notes on decontamination studies, a summary of the project, and a discussion of the suitability of the methods for regular use. Data throughout the report give activity levels measured in counts per minute.

Data Elements: 88, 95

[Report on] Rala-Chemistry Development, 1948-1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 52-3-98

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains charts and drawings

Duplication:: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemistry Division

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description:: This report summarizes the contributions of the Chemistry Division to the RaLa process from 1948 to 1950. It describes the purification of barium-140 through ion exchange. The report also addresses a meeting between ORNL and Los Alamos National Laboratory (LANL) Chemistry Division officials and the content of RaLa shipments from ORNL to LANL. Their discussion focused on metals (lead, iron, chromium, strontium, nickel, barium) and radioactive contaminants (Ce, Pr, Ru, Rh, Sr, Y, and Pu), with amounts given in milligrams (mg).

Data Elements: 88

Research and Development Monthly Progress Report, May 7, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: ORNL-44

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Chemistry Division, Research and Development

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report summarizes the Chemistry Division's monthly activities for March 1948. It includes a section regarding the radioisotope production from separated materials in the 706-D Area and unseparated materials in the 100 Area. It also notes the shipment of 33,399 millicuries of iodine-131.

Data Elements: 88, 120

706-D Production Run Reports, 1946

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: CF 46-1-438, 46-2-198, 46-2-321, 46-3-43, 46-4-263, 46-5-363

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; this series contains blurred print

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Chemistry Division, Research and Development

Finding Aids: Index to Central Files Memoranda, 1946

Disposition Authority: N/A

Series Description: This record series consists of detailed reports providing step-by-step descriptions of production runs in Building 706-D during the first half of 1946. The reports identify the number of slugs used in the operation, the processes involved, the number of curies in the products and in the waste produced, any deviations from normal operations, and accidents. Tables provide statistics for each step in the process. Data is presented in curies, percentages, and gallons per minute. Samples are identified by Analytical Laboratory codes which are explained in the 706-D Analytical Laboratory Manual CF 46-1-148.

Data Elements: 88, 89, 120, 122

[Memorandum on] Iodine Release Information, August 27, 1959

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 59-8-115

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Deputy Director of ORNL (J.A. Swartout)

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This memorandum contains a table indicating the amount of iodine-129, in curies, released from the Oak Ridge National Laboratory between 1944 and 1959.

Data Elements: 119

Laboratory Weekly Progress Reports, 1948-1952

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 4.3 linear feet

Accession or Other ID Number: ORNL 49, 56, 59, 67, 70, 76, 80, 87, 95, 104, 108, 111, 125, 127, 134, 143, 154, 160, 165, 167, 169, 177, 184, 189, 190, 194, 199, 202, 205, 207, 213, 219, 222, 225, 230, 233, 236, 237, 245, 254, 259, 270, 278, 279, 290, 292, 297, 304, 309, 311, 321, 324, 331, 334, 338, 342, 347, 350, 351, 356, 358, 362, 358, 362, 367, 370, 378, 384, 389, 399, 405, 456, 459, 462, 469, 474, 477, 482, 488, 497, 498, 504, 512, 522, 538, 546, 558, 561, 564, 566, 573, 581, 588, 594, 601, 609, 619, 633, 638, 645, 652, 660, 666, 669, 680, 682, 691, 698, 705, 713, 723, 729, 736, 744, 750, 762, 767, 775, 780, 785, 791, 800, 805, 806, 819, 821, 823, 829, 835, 847, 854, 861, 862, 869, 876, 881, 886, 892, 896, 907, 921, 922, 931, 937, 941, 945, 950, 956, 964, 971, 974, 978, 984, 988, 992, 994, 997, 998, 999, 1012, 1019, 1024, 1032, 1034, 1038, 1043, 1049, 1052, 1058, 1063, 1067, 1073, 1078, 1079, 1085, 1093, 1100, 1106, 1008, 1111, 1118, 1126, 1132, 1135, 1140, 1145, 1152, 1157, 1158, 1162, 1172, 1189, 1191, 1194, 1198, 1204, 1211, 1213, 1219, 1231, 1236, 1240, 1249, 1256

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs, charts, and tables

Duplication: Unknown

Arrangement: Numerical by ORNL number

Laboratory Weekly Progress Reports, 1948-1952 (continued)

Originating Office: ORNL, Director's Office

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: Laboratory weekly progress reports consist of two parts. Part A provides summaries of regular and unusual activities of the Operations, Health Physics, Health, General Office, Security and Protection, and Maintenance and Construction Divisions. Part B contains a detailed report for each division. Specific information regarding iodine-131 is in the section on the Isotope Control Department of the Operations Division in both parts of the report. The total number of curies produced each week and the number of shipments from the Isotope Control Department are given. I-131 information is also contained in the section on the Chemical Separations Department of the Operations Division. Quantitative information in this section is given in microcuries and grams per number of shipments and microcuries shipped. Weekly RaLa processing is also reported by the Chemical Separations Department, which includes the number of curies per week by run. The reports also provide detailed information from the Health Physics Division for on- and offsite monitoring.

Data Elements: 88, 120, 103, 124, 118.

Oak Ridge National Laboratory Status and Progress Reports, 1949-1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: ORNL-545, 574, 604, 646, 674, 700, 735, 773, 856, 903, 934, 953

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: ORNL, Director's Office

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This record series consists of monthly status and progress reports that summarize the activities of programs throughout the Laboratory. The reports contain sections on the production and process development for radioactive lanthanum. RaLa entries, generally found under the heading "Program 3000 - Weapons," contain information concerning the beginnings of runs, shipment dates, and yield percentages.

Data Elements: 120

Progress Report for January 1947, March 12, 1947

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 47-1-50

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Clinton Laboratory, Director's Office

Finding Aids: Index to Central Files Memoranda, 1947

Disposition Authority: N/A

Series Description: This report summarizes production and research and development activities performed at ORNL for January 1947. Information on staffing levels, total expenditures, radioisotope research and development, production activities, and isotope shipments is provided. Also included is a list of research and development reports issued.

Data Elements: 88

Waste Effluents Committee Minutes, 1962

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Internal Use Only; vault is a security classified area

Volume: 1.25 inches

Accession or Other ID Number: CF 63-4-34, 63-4-20, 63-3-40, 63-2-50, 63-2-33

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs and charts

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: ORNL, Director's Office

Finding Aids: Index to Central Files Memoranda, 1962-1963

Disposition Authority: N/A

Series Description: This record series summarizes the proceedings of the Waste Effluents Committee meetings held at the end of 1962. Topics include the control of radioactivity in the liquid waste disposal system and disposal facility options for 4500 complex wastes and wastes in the Melton Hill area. A pending concern was the relative priority of industrial versus radioactive waste. Appended tables and graphs provide statistics on the discharge of radioactivity, including cesium-137, to and from the White Oak water system; sources of radioactivity in White Oak Creek; the strontium-90 level in White Oak Lake; and elevation information for White Oak Creek when the Melton Hill Dam was operating.

Data Elements: 103

Decommissioning and Decontamination Project Files, 1948-1984

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 1.33 cu. ft.

Accession or Other ID Number: Schedule 8410-224-2

Condition: Fair

Container Numbers: 1453-1454

Medium: Paper, fewer than ten photographs

Scanning Suitability: Unsuitable; contains blueprints, photographs, and handwritten notes

Duplication: Unknown

Arrangement: None

Originating Office: Engineering Division, Process Design

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains supporting documents used to produce final reports on decommissioning and decontaminating several ORNL facilities. Sites include the 3513 pond; surplus shielded transfer tanks (STT) used for the transportation of cesium from Hanford and Arco to the Fission Products Development Laboratory (Building 3517) and between Buildings 7920 and 2531 on-site; the Waste Evaporation Facility (Building 2531); the Graphite Reactor; and the Homogenous Reactor Test (Building 7500/7505). Document types include memoranda, logs of telephone conversations, preliminary studies, cost estimates, comments on drafts, design analyses, and engineering drawings. There are no final reports in the boxes.

Data Elements: 88, 89, 117

Foundation Reports and Core Boring Logs, 1945-1977

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1.5 cu. ft.

Accession or Other ID Number: Schedule 8410-101-1

Condition: Fair

Container Numbers: 1812, 1813

Medium: Paper

Scanning Suitability: Not suitable; contains poor copies, blueprints, charts, graphs, plans, drawings, and charts

Duplication: Indicated filmed on box, location of film unknown

Arrangement: Geographic by building

Originating Office: Engineering Division, Civil and Architectural Section

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains reports on geologic investigations for areas within the X-10, Y-12, and K-25 boundaries prior to construction or expansion of facilities. Produced by the Army Corps of Engineers, these records include drilling reports describing drilling depth, types of rock and soil encountered, maps, measurements of groundwater levels, and final geological recommendations concerning suitability for construction. Areas reported on include the X-10 Waste Disposal Area (1954) and the Emergency Waste Basin Dam (1960), the Y-12 Alpha 5 Area, Buildings 9201-6 and 9204-1, the Gas Autoclave Building, the Building 9201-5 expansion, and the Waste Isolation Office (1976), and the K-25 addition to Building K-1037, K-1006 Buildings, the Oak Ridge Gaseous Diffusion Plant (ORGDP) Laboratory, the K-29 project, as well as the site for an unnamed high stability building.

Data Elements: 117

Preliminary Decommissioning Study Reports, 1983-1984

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 0.5 cu. ft.

Accession or Other ID Number: Schedule 8410-224-2

Condition: Good

Container Numbers: 1453

Medium: Paper

Scanning Suitability: Not entirely suitable; contains photographs and drawings

Duplication: Unknown

Arrangement: None

Originating Office: Engineering Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Preliminary Decommissioning Study Reports provide an initial assessment of potential decommissioning alternatives for surplus ORNL facilities. They choose a preferred alternative, justify it, and provide a preliminary description of the decommissioning plan, including cost and schedule estimates. This is not a complete collection, but includes the following reports:

Vol. 1: Shielded Transfer Tanks (used to transport cesium) X-OE-231 Vol 1, October 1983
Vol. 6: Homogenous Reactor Test X-OE-231 Vol 6, September 1984
Vol. 7: Oak Ridge Graphite Reactor X-OE-231 Vol 7, September 1984
Vol. 8: Low Intensity Test Reactor X-OE-231 Vol 8, September 1984
Vol. 11: Old Hydrofracture Facility X-OE-231 Vol 11, September 1984
Vol. 12: HRT Retention Pond X-OE-231 Vol 12, September 1984

The reports include a brief history of the facility, current physical conditions and radiological conditions (both circa 1983) and photographs and drawings of the facility.

Data Elements: 88, 89, 117

[Technical Memorandum on] "Areal Distribution of ^{60}Co, ^{137}Cs, and ^{90}Sr in Streambed Gravels of White Oak Creek Watershed Oak Ridge, Tennessee," 1981

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: ORNL/TM-7318

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL/TM number

Originating Office: Environmental Sciences Division

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This Technical Memorandum describes the concentrations of strontium-90, cobalt-60, and cesium-137 throughout the White Oak Creek watershed. Through the use of monitoring stations spaced at 35 meter intervals, this study provides baseline information on 1981 levels of discharge to all contaminated tributaries. It attempts to determine relative contributions to watershed contamination by specific Laboratory site or process. The report contains sections on methodology, monitoring locations, and radionuclide distribution. Maps and graphs further delineate the details of the study.

Data Elements: 103, 119, 124

Environmental Monitoring Spreadsheets, 1992-1994

Location: ORNL, Building 1505, Rm. 243

Access Restrictions: Unclassified

Location of Codebooks and Manuals: Rm. 243

System Control or Other ID No.: N/A

Location/Volume of Storage Media: Floppy disks in Rm. 243

Hardware/Software: MacIntosh/Microsoft Excel

Estimated Activity: High

Office/Program Supported by the System: Environmental Sciences Division

Originating Office: Environmental Sciences Division

System Description: These three electronic spreadsheets, titled "Deer, Geese, Duck" (1994), "Duckweed" (1992-1994), and "Fish" (1994), record gamma counts and nonradiological analyses of wildlife, plants, and fish used in risk assessment studies conducted by Dr. Gordon Blaylock. Each spreadsheet includes a sampling date; sample weight; gamma scan results, including counts for cesium-137; radiological counts; and nonradiological analyses. Reports can be generated in a variety of formats depending on the searching and sorting criteria used. The system is backed-up on a weekly basis onto floppy disks stored next to the computer.

Disposition Authority: N/A

Data Elements: 103

Environmental Sciences Division Annual Progress Report, February 1973

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.5 inches

Accession or Other ID Number: ORNL-4848, UC-48 - Biology and Medicine, Environmental Sciences Division Publication No. 480

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Environmental Sciences Division

Finding Aids: May be in the Technical Information Document Database (TIDD) Arthur Cards, Division Catalogs.

Disposition Authority: N/A

Series Description: This annual report summarizes the activities, milestones, and major personnel changes of the Environmental Sciences Division for the period ending September 30, 1972. The report discusses various programs and topics, including radionuclide cycling in terrestrial environments, terrestrial and aquatic system interaction, the International Biological Program, program applications, the eastern deciduous forest biome, soils and waste management studies, toxic and radioactive materials in the environment, environmental hazards evaluation, applied aquatic studies, and forest management.

Data Elements: 5, 103

[Report on] Transport and Accumulation of Cesium-137 and Mercury in the Clinch River and Watts Bar Reservoir System, June 1992

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: ORNL/ Environmental Report-7

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; document is bound

Duplication: Unknown

Arrangement: Numerical by ORNL/ER number

Originating Office: Environmental Sciences Division, Clinch River Environmental Restoration Program

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This report summarizes the history of contaminant releases, primarily cesium-137 and mercury, from the 1950s to the 1980s and previous studies that identified the transport, accumulation, and fate of contaminants released to offsite areas from ORNL. It indicates that Poplar Creek and the Clinch River served as pipelines for contaminants released from ORR and that the Watts Bar Reservoir was the major zone of contaminant accumulation. The report also documents the results of the first phase of the Clinch River Resource Conservation and Recovery Act (RCRA) Facility Investigation, which records the "nature and extent" of the Oak Ridge Reservation-derived contamination at offsite locations in the area using radiocesium to identify accumulation patterns and areas of potential hazard to human health. Measurements for cesium are usually given in picocuries per gram (pCi/g), and mercury measurements are given in micrograms per gram.

Data Elements: 103, 118

Health Division Annual Reports, 1949-1958

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 2.25 inches

Accession or Other ID Number: ORNL 943, 1065, 1369, 1607, 1776, 1967, 2190, 2418, 2643

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Division

Finding Aids: ORNL Register 1-4397, 1948-1949

Disposition Authority: N/A

Series Description: This record series summarizes the yearly activities of the ORNL Health Division. The reports describe ORNL's programs that evaluate and protect workers' health, external and internal radiation monitoring procedures and programs, and the monitoring of exposure to chemical and physical agents. They indicate how radiation monitoring was conducted but do not provide results. Physical examinations of employees are described and the total number of physicals performed is given, as is the number of sick and injured employees. The causes of injuries are noted, and include exposure to chemicals or hazardous or radioactive materials.

Data Elements: 35, 38-40, 42, 45, 81

Health Division Monthly Reports, 1948-1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.1 linear ft.

Accession or Other ID Number: ORNL 9, 29, 43, 60, 88, 107, 147, 182, 200, 217, 234, 273, 305, 322, 340, 355, 380, 507, 508, 509, 510, 605, 606, 718, 719, 720, 769, 770, 837, 838, 901, 902, 926, 927, 959, 960, 1015, 1016, 1017, 1059, 1119, 1120, 1225, 1226, 1229, 1230, 1257, 1281, 1296, 1316, 1349, 1362

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Division

Finding Aids: ORNL Register 1-4397, 1948-1949

Disposition Authority: N/A

Series Description: The Health Division monthly reports summarize the activities of the Health Division. The reports describe programs to evaluate and protect workers' health, external and internal radiation monitoring procedures and programs, and the monitoring of exposure to chemical and physical agents. They do not provide results of these programs other than how many tests were performed. Physical examinations of employees are described and the total number of physicals performed is given as are the numbers of sick and injured employees. The cause of injury, such as exposure to chemicals or exposure to hazardous or radioactive materials, is noted.

Data Elements: 35, 38-40, 42, 45, 81

Health Physics Report for January and February 1946, February 28, 1946

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 46-3-18

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Division, Health Physics Section

Finding Aids: Index to Central Files Memoranda, 1946

Disposition Authority: N/A

Series Description: This report summarizes the activities of the Health Physics Section of the Health Division during January and February of 1946. It contains information regarding research into improved detection methods, surveys taken by Health Physics staff, efforts to reduce radiation hazards, the necessity for accurate information on handling radioactive materials, unusual survey problems, radiation exposures, and accidents and incidents.

Data Elements: 8, 31, 81, 89, 103, 122, 124

[Report on] An Aerial Survey of Radioactivity Associated with Atomic Energy Plants, April 13, 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: ORNL-6728 and ORNL-341 (Redacted version)

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; this report contains graphs and charts

Duplication: DOE Public Document Reading Room, 55 Jefferson Circle, 615-211-4780

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report describes aerial surveys conducted over the Oak Ridge X-10 area beginning in November 1948. The flights tested laboratory instruments as detectors of airborne radioactivity and collected data on the atmospheric diffusion of radioactive contaminants from production runs. Radionuclides produced during chemical separation runs, such as RaLa production, included xenon-133, iodine-131, and krypton-85. The report describes the measurement of 1,300 curies of iodine-131 released from 150 pounds of uranium slugs over a decay period of five days prior to dissolution and extraction of barium-140. Other sections discuss the types of instruments used in the survey, the calibration and performance, and the effects of altitude and weather conditions on airborne radioactivity.

Data Elements: 88, 95, 103, 114, 116, 118-119, 121

Applied Health Physics Annual Reports, 1958-1964

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.5 inches

Accession or Other ID Number: ORNL 2777, 3073, 3159, 3284, 3490, 3665, 3820

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains charts, graphs, and photographs

Duplication: Unknown

Arrangement: Numerical by ORNL file number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This record series summarizes annually the activities of the Applied Health Physics Section, 1958-64. Specific sections concern area monitoring, personnel monitoring, assays and instruments, radiation surveys, and a bibliography of reports and papers authored by Applied Health Physics personnel. Statistical information relating to the monitoring of airborne radioactive particulate matter is provided in millicuries/cubic centimeter and the average number of particles collected per square foot. Gross beta concentrations for liquid waste discharges into the Settling Basin, White Oak Creek Reservoir, and Clinch River are reported in millicuries/cubic centimeter. Radionuclides monitored in these reports include strontium-90, cerium-144, cesium-137, cobalt-60, ruthenium-106, and zirconium-95.

Data Elements: 88, 103, 116, 118, 124

Applied Health Physics Quarterly Reports, 1954-1963

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: CF 54-10-169, 55-1-203, 63-12-39, 63-5-65

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; this series includes charts and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda 1952-1959; 1962-1963

Disposition Authority: N/A

Series Description: This record series consists of quarterly monitoring reports of the Applied Health Physics Division 1954-63. Each report provides narrative and quantitative information on radiation monitoring, radiation surveying, dosimetry, and environmental monitoring. The section on radiation monitoring includes subsections on personnel exposure, atmospheric monitoring, water monitoring, background measurements, and ionizing radiation. Monitoring measurements are provided in milliroentgens/hour. Radiation monitoring also provides a list of releases by division and specific work location/building number. Radionuclides detected in personnel include iodine-131 and cesium-137. Whole and partial body counting data are provided in rems/hour. Atmospheric monitoring is measured in millicuries/cubic centimeter and water analyses are reported in millicuries/milliliter. Water analyses include monitoring results of White Oak Creek and Clinch River. Background radiation and ionizing radiation are reported in millirems/hour. Environmental monitoring included milk analyses in picocuries/liter and thyroid analyses of cattle within a 100-mile radius of Oak Ridge. Radionuclides reported as monitored, include cesium-137 and iodine-131.

Data Elements: 59, 62, 71, 81, 98, 103, 114, 118, 122, 124

Applied Health Physics Semi-Annual Report, July-December 1956

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 57-1-173

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs and tables

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This semi-annual report of the Applied Health Physics Section of the Health Physics Division provides both narrative and quantitative descriptions of area air monitoring activities, fallout activity, rain water analyses, Clinch River and White Oak Creek analyses, background radiation monitoring, and monitoring of the work and protective garments laundry. Measurements for gamma and beta activity are reported in millicuries/cubic centimeter. The report does not provide information on specific radionuclides.

Data Elements: 81, 103, 118, 123-124

Applied Research and Development Quarterly Reports, 1949-1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.5 inches

Accession or Other ID Number: ORNL-346, 375, 495, 596, 695, 786, 877

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This series of reports describes the activities of groups engaged in applied research and development within the Health Physics Division. Such research involved instrument development, waste disposal, theoretical physics, experimental radiation measurements, the physics of nuclear radiation, radiochemical analysis, and education and training. The reports describe instruments for neutron measurement, radiation counting, and water monitoring; techniques for decontaminating liquid waste, dispersing stack gases, and detecting and absorbing beta, gamma, and neutron radiation. The reports also suggest consulting Laboratory Weekly Progress Reports for routine activities.

Data Elements: 103, 118, 121, 124

[Report on] The Balances of ^{137}Cesium, Stable Cesium, and the Feeding Rates of Bluegill (Lepomis Macrochirus Raf.) in White Oak Lake, December 1969

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.75 inches

Accession or Other ID Number: ORNL-4445

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report describes a physiological-ecological study of the balance of cesium-137, stable cesium, and potassium in bluegill fish in White Oak Lake. These substances were compared because of their similar physiological properties. The study, conducted between June 1967 and January 1969, focused on the intake, body burden, and excretion of cesium and potassium by bluegill. It discusses the biological half-life of cesium-137 in the fish and notes that cesium-137, stable cesium, and potassium are distributed throughout the fishes' tissue. Amounts of the elements are reported in parts/million.

Data Elements: 89, 103

Environmental Analysis of the Operation of Oak Ridge National Laboratory (X-10 Site), November 1982

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.0 inches

Accession or Other ID Number: ORNL-5870

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This 1982 report provides an analysis of the operations at the Oak Ridge National Laboratory and their effects on the surrounding environment. The report describes the history of ORNL, its activities, and environmental monitoring programs; the physical and socioeconomic characteristics of the surrounding area; the impacts of releases to the environment; construction activities; accidents; and the underlying assessment methodology. The report also describes the socioeconomic effects of ORNL activities upon the environment.

Data Elements: 103, 119, 122

Health Physics and Safety Annual Report for 1965, July 1966

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.75 inch

Accession or Other ID Number: ORNL-3969

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables and graphs

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division, Health Physics and Safety Section

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report summarizes the activities of the Health Physics and Safety Section during 1965. (In July 1966 the Applied Health Physics Section became known as Health Physics and Safety.) The report describes environmental and laboratory operations, personnel monitoring, surveying, and industrial safety functions. It also includes results of laboratory assays; notes on instrumentation development and use; lists of publications, training procedures, and activities; and a record of personnel exposures, accidents, and injuries. Interspersed tables and graphs provide quantitative information, such as weekly averages of radioactive fallout; concentrations of radioactivity in rainwater; the amount of liquid waste measured in curies, discharged into White Oak Creek, Clinch River, and Tennessee River; dose to laboratory personnel; and frequency of unusual occurrences. The report includes an organizational chart for the division.

Data Elements: 81, 88, 103, 114, 118, 121, 122, 124

Health Physics Counting Data, 706-D Area, 1945

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: CF 45-4-54, 45-4-55, 45-4-104, 45-4-105

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten data

Duplication: Unknown

Arrangement: Numerical by Central File number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1945

Disposition Authority: N/A

Series Description: This record series consists of monitoring data sheets for samples taken of the off-gases from the dissolving of slugs in the 706-D area. Information is provided in tables that include start and finish time of run, change in time, location of sample, and beta and gamma counts in counts per minute (c/m).

Data Elements: 124

Health Physics Division - ORNL Waste Disposal Research Section Monthly Reports, April-September 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.5 inches

Accession or Other ID Number: CF 49-5-209, 49-8-116, 49-9-110, 49-10-55, 49-12-38

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division, Waste Disposal Research Section

Finding Aids: Index to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This record series of monthly reports documents the activities of the Waste Disposal Research Section. Many of these activities were conducted in conjunction with other departments and divisions within ORNL, such as Chemistry and Analytical Chemistry, and with other federal agencies, such as the Tennessee Valley Authority (TVA) and the United States Public Health Service (USPHS). The reports describe various research projects dealing with the development of instruments for water radiation analysis, surveillance of White Oak Creek and Lake, and water decontamination, including sewage treatment and rain water analysis. They describe monitoring of fish and fish tissue for beta and gamma decay. The reports also chronicle the routine activities of the Waste Disposal Research Section.

Data Elements: 8, 24-25, 103

Health Physics Division Annual Progress Reports, 1958 and 1959

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.75 inches

Accession or Other ID Number: ORNL-2590 Health and Safety TID-4500; ORNL-2806 Health and Safety TID-4500(15th ed.)

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: These annual progress reports summarize the major activities of the Health Physics Division. They include sections on waste disposal research and engineering; radiation dosimetry; internal dosimetry; education, training, and consultation; and applied health physics. Information and data pertaining to the disposal and monitoring of radioactive waste include treatment, burial, fixation, disposal in wells and salt formations, and sorption and retention. Ecological research and related cooperative projects are cited. Tables are interspersed throughout the report. Cesium-137, strontium-90, cobalt-60, and ruthenium-106 are frequently mentioned contaminants. Measurement units used with these contaminants include millicuries/cubic centimeter, rems/hour, and counts per minute per milliliter (cpm/ml).

Data Elements: 88, 103, 116, 124

Health Physics Division Semiannual Progress Report, January 31, 1955

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: ORNL-1860

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report summarizes the activities of the Health Physics Division in applied radiobiology, sanitary-engineering research, radiation dosimetry, and programs in education, training, and consultation. Information on iodine-131 and cesium-137 is provided in subsections on liquid waste disposal, airborne radioactivity studies, and isotope distribution in animal tissue and man. Indirect information on iodine-131 and cesium-137 (beta and gamma counting and decay) is found in subsections concerning ecology, urinalysis, and dosimetry.

Data Elements: 59-65, 68-71, 123, 81, 91, 95, 96, 97, 98, 103, 118, 124

Health Physics General Correspondence, 1943-1958

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 11.5 cu. ft.

Accession or Other ID Number: Schedule 3191-1-18

Condition: Fair

Container Numbers: 530-541

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Chronologically and then alphabetically by subject and/or author and custodian; and numerically by incomplete filing system

Originating Office: Health Physics Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains correspondence, memoranda, and survey reports relating to the radiation monitoring and protection function of the Health Physics Division. Information includes "Activity Hazard Incident Reports," which identify employees involved in radiological incidents, including several for building 706 during 1948-1949; correspondence concerning incidents and personnel exposures in isotope production and handling areas; problems with shipping radioactive material, circa 1948-1949, and monitoring of containers received from Hanford; monitoring of rail cars on the K-25 siding, circa 1950; radiation survey results for building 9204-1 at Y-12 from January 1949; practice evacuations from the isotope area during 1951; and area background monitoring through the 1950s.

Data Elements: 8, 16, 31, 38, 120

Health Physics Reports, (706-C Area), 1945-1946

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 2 inches

Accession or Other ID Number: CF 45-4-181, 45-4-208, 45-4-275, 46-1-11, 46-1-13, 46-2-11, 46-2-14, 46-3-278, 46-3-72, 46-4-42, 46-4-526, 46-4-375, 46-5-241

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by central file number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1945; 1946

Disposition Authority: N/A

Series Description: This record series consists of reports, in the form of memoranda, describing the routine health physics activities in building 706-C, where many radionuclides were produced for commercial, medical and industrial use. Information on levels of radioactivity is expressed in milliroentgens/hour (mr/hr), roentgens/hour (r/hr), and counts per minute (c/m). The reports describe in detail spills and leaks of radioactive materials and cleanup procedures, as well as individual employee exposures and incidents. Employee exposure levels are reported in r/hr. Iodine-131 measurements are provided in curies. Reports are issued at irregular intervals, generally every one to three weeks.

Data Elements: 8, 31, 62, 77, 91, 102, 122

Health Physics Reports, (706-D Area), 1945-1947, 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 3 inches

Accession or Other ID Number: CF 46-1-138, 46-1-253, 46-1-463, 46-2-194, 46-2-344, 46-3-286, 46-3-395, 46-4-51, 46-4-309, 46-4-441, 46-4-575, 46-5-164, 46-5-256, 46-5-391, 46-5-503, 46-6-93, 47-1-424, 47-1-425, 47-2-417, 47-2-418, 47-2-419, 47-10-11, 47-11-449, 49-4-145, 49-3-194

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1946; 1947; 1948-1949

Disposition Authority: N/A

Series Description: This record series consists of weekly and bi-weekly reports concerning the monitoring of airborne radioactivity in the 706-D area, where RaLa was produced. Information includes radiation surveys and monitoring data associated with RaLa production runs; personnel radiation monitoring associated with maintenance and repair work; and incidents and accidents occurring in the area. Air monitoring activities involved airborne releases of Iodine-131. The reports also discuss efforts to reduce radiation in the workplace and to improve working conditions. Sites monitored include the settling basin and the tank farm. Survey and monitoring results are expressed in counts per minute (c/m), counts per hour (c/h), milliroentgens (mr), milliroentgens/hour (mr/hr), and roentgens/hour (r/hr). The reports include tables.

Data Elements: 8, 31, 62, 81, 89, 103, 124, 119, 122

Laboratory Facilities Waste Disposal Monthly Reports, May 1962-December 1963

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.5 inches

Accession or Other ID Number: CF 62-5-64, 62-6-10, 62-8-7, 62-8-78, 62-11-24, 63-1-23, 63-3-39, 63-4-3, 63-5-14, 63-6-44, 63-8-64, 63-10-5, 63-12-11.

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains maps, tables, charts, and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division, Waste Disposal and Decontamination Section

Finding Aids: Index to Central Files Memoranda, 1962-1963

Disposition Authority: N/A

Series Description: These monthly reports quantitatively document the release of liquid and gaseous radioactive wastes from ORNL to the environment. They give the monthly amount (in gallons) of liquid waste discharged through White Oak Dam and into White Oak Creek, White Oak Lake, and the region between the White Oak Dam and Clinch River. The liquid waste is further reported in a total curie amount according to the radionuclides strontium-90, ruthenium-106, and cesium-137. The total curie amount of gaseous waste releases from stacks 3039, 3020, 3018 is reported.

Data Elements: 103, 119, 121, 124

Minutes of Conference on Liquid Waste Disposal, August 23-25, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Declassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: ORNL 163

Condition: Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1967

Disposition Authority: N/A

Series Description: These are the minutes of a 1948 conference on liquid waste disposal at ORNL. The agenda included discussions by various representatives from the Chemistry, Technical, Health Physics, and Operations divisions relating to the current waste disposal program and its effectiveness; types of waste from local plant operations and those received from other sites; the methods of waste storage and disposal; summaries of activity levels along White Oak Creek and Lake; uses of burial grounds for disposition of solid waste; analyses of soil samples determining the degree of soil adsorption and activity levels; and the effectiveness of algae as a medium for concentrating activity.

Data Elements: N/A

Monthly Progress Reports on ORNL Waste Disposal, 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.25 inches

Accession or Other ID Number: CF 49-2-76, 49-2-182, 49-3-195, 49-2-76, 49-5-222

Condition: Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs and charts

Duplication: Unknown

Arrangement: Numerical by central files number

Originating Office: Director, ORNL

Finding Aids: Index to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This record series consists of monthly reports on the waste disposal activities of the Oak Ridge National Laboratory. The reports provide information regarding the filtering of cooling air for the reactor pile; accidental and experimental releases from slug ruptures; monitoring of exhaust air systems, stacks, and off-gas lines; and monitoring of RaLa operations. The reports also provide information on waste disposal concerning the production of iodine-131 and xenon-135; all emissions are reported in millicuries/hour.

Data Elements: 81, 88, 116, 119, 121, 123, 124

Monthly Radiation Survey Reports, 1947

Location: 1. Active:
2. Inactive: ORNL Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: CF 47-1-3

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by central files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1947

Disposition Authority: N/A

Series Description: These monthly radiation reports from 1947 contain monitoring and sampling information for various ORNL work locations, including the 100 area, 706-D building for barium separation and enrichment (RaLa), 706-C building for hot chemistry, 706-A building for chemistry, 200 area, 719-A biology section, and the general area. The 706-D building, where RaLa production occurred, had air sampling and floor smears taken regularly with results given in milliroentgens/hour (mr/hr). The reports also describe the surrounding air and off-gas releases associated with specific RaLa runs as well as incidents and decontamination and clean-up efforts. RaLa precipitation samples were monitored for tolerance levels of gamma and beta exposure. Monitoring information regarding the tank farm associated with the 706-D building is discussed.

Data Elements: 116, 119, 124

Monthly Radioactive Waste Disposal Operations and Effluent Monitoring Reports, 1975-1978

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Internal Use Only; vault is a security classified area

Volume: 7.75 inches

Accession or Other ID Number: CF 75-9-14, 75-10-14, 75-11-8, 75-12-23, 76/41, 76/49, 76/99, 76/124, 76/135, 76/166, 76/195, 76/338, 76/363, 76/419, 76/441, 76/463, 77/65, 77/89, 77/187, 77/301, 77/332, 77/341, 77/383, 77/395, 77/454, 78/7, 78/17, 78/48, 78/65, 78/191, 78/193

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; contains tables, charts, and maps

Duplication: Unknown

Arrangement: Numerical by Central Files Number

Originating Office: Health Physics Division

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority:N/A

Series Description: The monthly reports of this record series pertain to the radioactive effluents released into the Clinch River and White Oak Creek and the monitoring of the waste. Lists of the major contributors of intermediate-level waste (ILW) are given as are comparisons of the volumes of ILW generated each month. Gaseous waste discharged from the ORNL stacks is also discussed. Individual stack releases and total releases are compared on a monthly basis for iodine-131. Tables showing process-waste discharges are provided for various processing areas and buildings with gross-beta activity averages in counts/minute/milliliter (c/m/ml) and gross-beta activity in curies with the percentage of the total curies.

Data Elements: 103, 118, 121

The Particle Problem at Oak Ridge National Laboratory: An Historical Summary, December 30, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Declassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 49-1-49

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This 1948 report discusses the early air monitoring of the X-10 area that led to the discovery of an airborne radioactive-particulate (iodine-131) problem. It outlines the early methods used to monitor and remove radioactive particles and the development and installation of filter and exhaust systems. The report provides information on modifications of slug dissolution facilities, such as those in Building 706-C for isotope production and Building 706-D for RaLa production, which eliminated the formation and distribution of radioactive particles from reactor exhaust stacks. It also discusses experimental work on decontamination by wetting and oiling the roads. The report's appendix provides a bibliography of important reports and memoranda on the particle problem.

Data Elements: 81, 88, 89, 103, 119, 122-124

Preliminary Progress Report - Laboratory Studies Water Decontamination III. Studies on Ce^{144}, Y^{91}, and I^{131}, May 3, 1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 51-5-202

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by central files number

Originating Office: Health Physics Division, Radioactive Waste Disposal

Finding Aids: Index to Central Files Memoranda, 1950-1951

Disposition Authority: N/A

Series Description: This report details experiments investigating the removal of cerium-144, yttrium-91, and iodine-131 from tap water solutions under various mixing and pH conditions. The report describes the set-up, execution, and results of the experiments. The investigators found that rapid mixing, long periods of settling, and high pH levels increased the removal of the radioisotopes from the solutions and facilitated the formation of other compounds containing these radioisotopes. Attached tables provide experimental results with radioactivity expressed in counts per minute per milliliter.

Data Elements: 88

Progress Reports on the Particle Problem, 1948 and 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: ORNL-146,

Condition: Good 172, 283, 319

Container Numbers: Open Shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains maps, diagrams, photographs, and charts

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This record series consists of four progress reports documenting efforts in 1948 and 1949 to detect the source and measure the level of radioactive particulate contamination in and around the X-10 area. Special attention is given to the 706-D building that housed RaLa production. Monitoring data is reported in beta and gamma decay in counts per minute and particles per frame per twenty-four-hour period. While the reports are particularly concerned with uranium-oxide particle contamination, they also mention iodine-131 and xenon-135 particle contamination, especially during RaLa production. The reports provide information concerning wind direction and velocity, dates and time of monitoring, and filter collections and analysis. For the 706-D building, the number of slugs dissolved per RaLa run is given and this information is correlated with monitoring sample data.

Data Elements: 81, 88, 103, 116, 118-119, 124

Radiation Survey and Monitoring Section Weekly Reports, 1948-1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.5 inch

Accession or Other ID Number: CF48-7-358, 49-3-258

Condition: Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division; Radiation Survey and Monitoring Section

Finding Aids: Index to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This record series consists of weekly reports of the Radiation Survey and Monitoring Section of the Health Physics Division. They provide general information on the use of geiger counters, the use of protective clothing and other gear, and the handling of hazardous and contaminated materials. The reports provide detailed surveys and monitoring results of buildings and work areas, including the 706-C building for isotope separation and 706-D building for RaLa production. Cumulative urinalysis results for alpha activity and dosimetry results for whole and partial body counts are given. The report also provides information on building air monitoring and water sampling and meteorological effects upon particulant effluents.

Data Elements: 59, 60, 62, 65, 68, 102, 107, 103, 124

[Report on] Radioactive Fission Product Contamination in the Mud of White Oak Drainage System, March 20, 1947

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inches

Accession or Other ID Number: MON-H-258

Condition: Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1947

Disposition Authority: N/A

Series Description: This 1947 report discusses the changing level and nature of radioactive fission-product contamination in the mud of the White Oak Creek drainage basin and the natural processes used to restrict the flow of these contaminants into the Clinch River. Fission products monitored for the report include barium, strontium, and cesium-137 released during barium separation processes, as well as zirconium and columbium from plutonium separation operations.

Data Elements: 103, 119

Radioactive Waste Disposal Progress Reports, 1949-1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 49-6-252, ORNL-873

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains charts and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number and ORNL number

Originating Office: Health Physics Division, Waste Disposal Section, Radioactive Waste Disposal Research and Development Section

Finding Aids: Index to Central Files Memoranda, 1948-1949; ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This record series provides general monthly overviews of the Waste Disposal Section's activities. These progress reports contain information on personnel changes, water treatment studies, fish samples taken from the White Oak Lake, the water filtration plant, field training, research, equipment, analytical methods, treatment studies, and meetings and conferences. Individual projects are identified along with staff members' programmatic responsibilities.

Data Elements: 8, 34, 124

[Report on] Radioactivity in the Mud of White Oak Lake, October 26, 1953

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inches

Accession or Other ID Number: ORNL-1580

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs and tables

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report summarizes the annual radioactivity assays of White Oak Lake mud conducted between 1950 and 1952 and estimates the maximum radioactivity downstream in the event of a dam failure. It details sampling procedures and equipment, laboratory procedures, calculations, results, estimated downstream activity, and the assumptions used to formulate the estimate. The report also includes graphs and tables of mud radioactivity data that indicate sample numbers, analysis amount x 10^{-2} microcuries/gram, dry weight, and microcuries/square foot.

Data Elements: 81, 89, 103, 124

[Report on] Radioactivity in the Silt of the Clinch and Tennessee Rivers, January 7, 1960

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inches

Accession or Other ID Number: ORNL-2847 Second Issue

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains figures and tables

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This 1960 report provides information on the deposition of low-level radioactive waste discharged into the Clinch and Tennessee rivers by the Oak Ridge National Laboratory. The purpose of the report, which is based on data collected from surveys of these rivers since 1951, is to assess the reconcentration and absorption of radioactive material in riverbed sediments. It evaluates the hazards to humans from the radioactivity in the sediments, estimates the ability of the Tennessee River system to continue receiving and storing radioactive contaminants, determines the effects of an increase in bottom radioactivity on industry, and makes recommendations on further waste disposal in the system. Instrumentation, calibration, and procedures are discussed. Figures and tables include information on the presence of cesium 137, strontium-90, cerium-144, ruthenium-106, cobalt-60, and rare earth elements in the river sediments with beta and gamma counts and radioactivity levels in relation to the riverbed contour.

Data Elements: 81, 103, 118, 124

[Report on] Removal of I^{131} from Tap Water by Distillation, August 29, 1952

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 52-8-202

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains worksheets with faded handwritten data

Duplication: Unknown

Arrangement: Numerical by Central Files Number

Originating Office: Health Physics Division, Radioactive Waste Disposal

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This report pertains to Badger Distillation Unit's run number six on August 26-27, 1952 involving the removal of iodine-131 from tap water by distillation. It includes results for both alpha and beta activity counts, with results given in disintegrations per minute per milliliter and counts per minute per milliliter, respectively, and the percentage of contaminant removed. The report also provides information on the cleaning and maintenance of the equipment and estimated exposure levels for operators.

Data Elements: 31, 88, 124

Status Reports 1 through 6 on Clinch River Study, 1961-1966

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 2.50 inches

Accession or Other ID Number: ORNL-3119, 3202, 3370, 3409, 3721, 3721 Supplement 1, 3721 Supplement 2A, 3721 Supplement 2B, 3721 Supplement 3, 3941

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains maps, diagrams, tables, and copies of photographs

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Health Physics Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This record series consists of six progress reports and associated supplements documenting the work of the Clinch River Study Steering Committee. The reports summarize the fate of radionuclides released and dispersed into the Clinch River and evaluate current disposal practices and the usefulness of the river for disposal of radioactive waste. They provide information on hydrologic and biological studies, sampling procedures and analytical results, radionuclide dispersal, sedimentary deposition, dilution effects, human exposure to radionuclides, and hazard evaluations. Strontium-90, cesium-137, cobalt-60, and ruthenium-106 are the chief contaminants. Cesium concentrations are expressed in picocuries per liter (pCi/l). Tables also show the concentration of radionuclides at various positions along the waterway. Waterflow data and maps of the sampling locations along the 21-mile stretch of the Clinch River are given.

Data Elements: 69, 103, 118-119, 124

Studies of ORNL Stack Monitoring, October 6, 1961

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Internal use only; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 61-8-90

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains figures and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memorandums, 1960-1961

Disposition Authority: N/A

Series Description: This 1961 report is a study of ORNL stack-monitoring activities and recommendations for improving the 3018 stack-sampling system. The study samples stack releases, particularly iodine-131, according to an isokinetic method, which measures the quantity of particulate release based on the size and speed of the particles. The report contains diagrams, graphs, and equations.

Data Elements: 116, 119, 121, 124

Waste Monitoring Group Report for December 1947, January 7, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 48-1-134

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division, Waste Monitoring Group

Finding Aids: Index to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This report provides results of air and water radioactivity monitoring of wastes for the month of December 1947. The report indicates that iodine-131 levels, which fluctuated according to RaLa processing during the period, were low because RaLa runs were not conducted that month. Beta activity for the White Oak Dam and Settling Basin indicated activity concentrations lower than the preceding month. The report also includes data on rainfall, wind direction and velocity, equipment, and personnel matters.

Data Elements: 103, 124

Waste Monitoring Weekly Reports, 1948-1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Declassified; vault is a security classified area

Volume: 14 inches

Accession or Other ID Number: CF 48-7-15, 48-7-168, 48-7-205, 48-8-46, 48-8-89, 48-8-222, 48-8-352, 48-8-358, 48-9-37, 48-9-80, 48-9-147, 48-9-274, 48-10-90, 48-10-130, 48-11-193, 48-12-79, 48-12-203, 49-5-33, 49-5-39, 49-5-67, 49-5-178, 49-6-1, 49-6-90, 49-6-130, 49-6-154, 49-6-267, 49-7-13, 49-7-30, 49-7-186, 49-7-257, 49-8-55, 49-8-75, 49-8-237, 49-8-283, 49-9-47, 49-9-140, 49-9-159, 49-9-240, 49-10-42, 49-10-102, 49-10-177, 49-10-202, 49-11-66, 49-11-142, 49-11-191, 49-11-264, 49-12-23, 49-12-31, 49-12-73, 49-12-135

Condition: Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; contains brittle paper

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This record series contains weekly waste monitoring reports for the Oak Ridge National Laboratory. The reports provide data on air-monitoring activities and liquid waste disposal. Data on the release of iodine-131 in millicuries/cubic centimeter, show the extent of air contamination. The reports furnish information on wind direction and velocity and rainfall and how these conditions affect airborne effluents. In the liquid waste management section, the reports describe the sampling and analysis of water from White Oak Creek, White Oak Dam, and White Oak Settling Basin for beta and gamma activity in milliroentgens/hour (mr/hr).

Data Elements: 103, 118, 124

White Oak Dam and Settling Basin Surveys, 1945-1946

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 5.0 inches

Accession or Other ID Number: CF 45-4-235, 46-1-25, 46-1-183, 46-1-205, 46-2-295, 46-2-238, 46-3-177, 46-3-299, 46-3-71, 46-3-394, 46-4-50, 46-4-183, 46-4-579, 46-4-280, 46-4-440, 46-5-481, 46-6-209, 46-6-256, 46-5-155, 46-5-254, 46-5-392, 46-4-182, 46-4-83.

Condition:Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; brittle paper

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Health Physics Division

Finding Aids: Index to Central Files Memoranda, 1945, 1946

Disposition Authority: N/A

Series Description: This record series consists of weekly analyses of inlet and outlet water samples from the White Oak Dam and Settling Basin. Gamma activity in the water is reported in tabular form in milliroentgens/hour (mr/hr), counts/minute (c/m), and milliroentgens/hour/liter (mr/hr/l). The series also contains correspondence suggesting tolerance levels for radioactivity discharged in the Clinch River. Some reports also describe studies conducted on dead fish found near the settling basin.

Data Elements: 103, 118

XI. OFFICE OF ENVIRONMENTAL COMPLIANCE AND DOCUMENTATION

Groundwater Field Logbooks, 1988

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1.75 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: 3018-3020

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten forms

Duplication: Unknown

Arrangement: Numerical by well number

Originating Office: Office of Environmental Compliance and Documentation, Environmental Surveillance

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Groundwater Field Logbooks document the monitoring of wells within Solid Waste Storage Area (SWSA) 6 and Waste Area Groups (WAG) 1 and 5. The monitoring activities tested numbered wells for pH, temperature, and conductivity as well as a variety of chemicals. Analyses include barium, cadmium, chromium, lead, iron, manganese, and mercury. Most records include a field data sheet, which asks questions about well characteristics and identifies the sample takers; a sampling summary sheet; a chain of custody form; calibration and standardization forms; and a request for analytical services form. Final analytical reports are not included. Several of the binders contain tables of contents.

Data Elements: 8, 114, 124

Offsite Residential Well Water Sampling Records, 1989-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 2 inches

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: 3018, 3021

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten forms

Duplication: Unknown

Arrangement: Numerical by well number

Originating Office: Office of Environmental Compliance and Documentation, Environmental Surveillance

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series consists of well sampling data taken from private wells offsite. Information includes depth and type of well, materials used in each well, location, flow rate, water quality, previous testing, method of sampling, time samples were taken, water temperature, pH, and specific conductivity of each sample. Box 3021 includes a description of the Offsite Residential Well Water Program that stipulates collection, analysis, and reporting procedures for residential water wells.

Data Elements: 8, 11, 118

Surface Water Sampling Records, 1988-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1.5 inches

Accession or Other ID Number: N/A

Condition: Fair

Container Numbers: 3017

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten forms

Duplication: Unknown

Arrangement: Chronological

Originating Office: Office of Environmental Compliance and Documentation, Environmental Surveillance

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Surface Water Sampling Records consist of data sheets identifying the location, date, time, and volume of weekly surface water samples taken from the White Oak Creek. The creek depth, in feet, is also noted. Each data sheet is signed by the technician(s) who took the sample. These records do not include the results of the samples or the types of analyses run.

Data Elements: 8, 118, 124

Analytical Data Reports Ba Runs and Shipment Reports, 1947-1952

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 9 inches

Accession or Other ID Number: CF 47-3-89, 47-3-439, 47-4-204, 47-6-304, 47-7-380, 47-8-329, 47-12-630, 48-3-307, 48-7-152, 48-7-326, 48-9-40, 48-11-230, 49-1-159, 49-3-1, 49-3-214, 49-3-255, 49-6-8, 49-7-140, 49-8-258, 49-10-87, 49-11-233, 50-1-14, 50-3-79, 50-4-59, 51-4-211, 50-6-98, 51-5-125, 51-8-146, 52-1-131, 52-6-39, 52-7-29, 52-8-16, 52-10-111

Condition: Good

Container Numbers: Open Shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1947; 1948-1949; 1950-1951; 1952-1959

Disposition Authority: N/A

Series Description: This record series consists of reports that provide analytical data concerning individual RaLa runs and shipments sent to Los Alamos between 1947 and 1952. The reports indicate the number of batches per run, the number of slugs dissolved per batch, and the amount of curies produced per batch. They also indicate the total amount of curies for the total RaLa product, the amount of curies lost during the process, and the material balance from the process.

Data Elements: 88

[Report on] Behavior of Iodine in the HRT, March 18, 1958

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 58-3-75

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Unknown

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This 1958 report describes the removal of iodine-131 from the Homogenous Reactor Test. It includes data tables showing activity levels, in disintegrations per second, for iodine-131, iodine-133, strontium-90, cesium-136, and cesium-137, and compares estimated activity with actual activity.

Data Elements: 88

[Report on] Evaluation of the Iodine Vapor-Fission Gas Adsorption Traps for ORR-705 Capsule Experiment, GCPR Capsule Irradiation Program, December 23, 1958

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 58-12-10

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains charts, tables, and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Unknown

Finding Aids:Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This 1958 report is an evaluation of iodine vapor-fission gas adsorption traps for use in the Oak Ridge Gas-Cooled Power Reactor Capsule Irradiation Program. The traps, which consist of coal or charcoal filters, control leaking and limit releases of iodine vapor and other fission gases, such as krypton and xenon. The report evaluates atmospheric contamination resulting from releases of these fission products and contains charts, tables, and graphs. Radioactivity is reported in millirems/hour and microcuries/cubic centimeter. The report also indicates the total amount of curies released into atmosphere.

Data Elements: 88, 95, 123, 124, 119, 121

Fission Product Development Laboratory Logbooks, 1958-1964

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1.1 cu. ft.

Accession or Other ID Number: Schedule 3602-2-2

Condition: Fair

Container Numbers: T-068

Medium: Paper

Scanning Suitability: Not suitable; contains bound notebooks with handwritten entries

Duplication: No

Arrangement: Chronological and by logbook number

Originating Office: Operations Divison, Radioisotopes

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series consists of hardcover notebooks recording daily activities at the Fission Products Development Laboratory from June 1958 through November 1964. Each book is labeled on the outside with its number and date span. Inside the cover of each log is its title, number, and dates of use. There are three types of logs in this series: Operational Logs #1-25, dated June 19, 1958-February 4, 1964, and #29 September 9, 1964-November 23, 1964; Panel Board #3 Logs #1-4, dated June 5, 1962-November 7, 1962; and six Cell Logs for various cells within the plant for 1961-1964. All three types of logs contain the same information, but the Operational Logs and Panel Board Logs deal with multiple cells while Cell Logs deal with individual cells. Each logbook contains a shift by shift account of the daily operation of the plant. The logs include entries for filtering, jetting, adding materials, sampling, crystallization of materials, forming pellets, furnace use, clean-up and decontamination, measurement of radiation levels, primarily of waste products, equipment tests, production procedures, equipment maintenance and repairs, and the signature or initials of the operator. Two logbooks, Cell 13 for May 1961-May 1962 and Cell 14 dated November 1962-May 1963, are marked as pertaining to cesium-137 on the cover; their contents indicate the use and/or production of several cesium compounds. The Panel Board Logs contain many references to carbon isotopes.

Data Elements: 8, 31, 88, 89, 114

Graphite Reactor Logbooks, 1947-1960

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 6 cu. ft.

Accession or Other ID Number: Schedule 3046-2-1

Condition: Fair

Container Numbers: 548-553

Medium: Paper

Scanning Suitability: Not suitable; contains bound notebooks with handwritten entries

Duplication: Unknown

Arrangement: Chronological and numerical by logbook number

Originating Office: Operations Division

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Graphite Reactor Logbooks are the continuous, handwritten record of the daily activities of the reactor operators. The volumes are numbered from 22 to 109. Each operator noted activities during the shift and included information on difficulties encountered, fuel loading and unloading, sample irradiations, start-up and shut-down, and the time at which all actions were taken. Each entry also includes the operator's initials or signature. Also noted are transfers of samples to other divisions, including isotopes. Samples are only identified by number, not by substance.

Data Elements: 8, 31, 89

[Report on] Groundwater Quality Monitoring Well Installation for Waste Area Grouping 1, April 1987 - April 1988

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 3.5 inch three ring binder

Accession or Other ID Number: ORNL/RAP-47

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains maps

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Operations Division

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This report documents the drilling and installation of groundwater quality monitoring wells in Waste Area Grouping (WAG) 1. Data obtained from these wells was used to characterize and assess the WAG in accordance with applicable DOE, state, and EPA requirements. The report is organized numerically by monitoring well numbers 806 to 830. The information includes well location, drill date, name of driller, type of drill used, name of the person who logged the well, decontamination procedures used, well geology, types and amounts of soil samples collected during drilling, why the well was developed (e.g., "to remove dull cuttings, silt, and fines from the monitoring well."), installation of dedicated monitoring well pumps, testing for hydraulic conductivity of the aquifer in the vicinity of the well screen, and Conformance or Nonconformance Reports. Also included are copies of checklists for pre-drilling, notes on decontamination, well logs, well installation/completion forms, monitoring-well materials certification progress reports, and maps of the wells.

Data Elements: 85, 103, 117-119

[Draft] History of the Oak Ridge National Laboratory, 1943-1963

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: CF 63-8-75

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: OSTI, P.O. Box 62, Oak Ridge, TN 37831

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1962-1963

Disposition Authority: N/A

Series Description: This report is a rough draft of a historical account of the Oak Ridge National Laboratory from 1943 to 1963. The history is divided into three parts. The first, titled "The Plutonium Pilot Plant, 1943-1945," examines the establishment, construction, organization, and early accomplishments of the Clinton Laboratory. Areas of accomplishment include reactor operations, chemical process development and pilot plant demonstration, research and development in physics, chemistry, and engineering, and radiation protection and hazards evaluation. The second part, titled "Post War Transitions," examines the period between 1945 and 1948 when the Clinton Laboratories reoriented the focus of its research and development from the needs of World War II to those of the Cold War. The third part, titled "The Oak Ridge National Laboratory, 1948 to 1958, examines the establishment of the Laboratory as a permanent institution and chronicles the development and accomplishments of each division.

Data Elements: 2, 3, 88

A History of the Radioactive Barium-Lanthanum Process and Production, 1944-1949 (1949)

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number:: ORNL 246

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: OSTI, P.O. Box 62, Oak Ridge, TN 37831

Arrangement: Numerical by ORNL number

Originating Office: Operations Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description:: This report is a history of RaLa operations from 1944 to 1949. During this period, ORNL sent 31 shipments of RaLa to Los Alamos. The report discusses contamination resulting from RaLa operations, particularly iodine-131, giving the total number of curies produced during each dissolution run. The history provides background information on the development of the barium-lanthanum separation process and the construction of buildings where that process took place. It also assesses the current state of RaLa production and prognosis for the future. An extensive bibliography lists the literature produced at ORNL concerning RaLa and appendixes outline the operations of buildings 706-C and 706-D.

Data Elements: 2, 88, 120

[Report on] HRT Iodine Removal Bed, September 10, 1957

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 57-9-50

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables and graphs

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Unknown

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This report describes the iodine remover bed proposed for use with the Homogenous Reactor Test to prevent xenon poisoning of the system. The proposed bed would remove iodine by diffusion and reaction with special silvered rings. Equations, calculations, tables, and graphs provide the supporting technical data for this project.

Data Elements: 88

Iodine Analysis Records, 1971-1982

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 2 cu. ft.

Accession or Other ID Number: Schedule 3234-6-13

Condition: Fair

Container Numbers: T312-T313

Medium: Paper

Scanning Suitability: Not suitable; contains handwritten forms

Duplication: Unknown

Arrangement: By building number, chronological by date

Originating Office: Quality Division, Inspection Engineering Department

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: This record series contains iodine efficiency analysis worksheets for charcoal adsorbers. Information includes the date; the responsible division (often Operations), building number, system, methyl iodide and elemental iodine efficiency expressed in percentages, dates and results of previous tests, sample number, total counts per minute, time elapsed, decay correction factor, decay corrected, geometry (spacer), geometry factor, and total counts per minute corrected. Additionally, these records include packing lists dating from 1971 providing the customer's order number, the isotope order number, the license number, the scheduled date, the name and address of the receiving party, routing and shipping information, billing instructions, quantity, a description of the material being shipped, charges, special instructions, and shipment approval signatures.

Data Elements: 89, 103, 124

Isotope Loan Records, 1965-1984

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 6 cu. ft.

Accession or Other ID Number: Schedule 3605-2-9

Condition: Fair

Container Numbers: 2034, 2039-2041, 2044, 2050-2051

Medium: Paper

Scanning Suitability: Not entirely suitable; contains colored paper, small pieces of paper, and handwriting

Duplication: Unknown

Arrangement: By institution/organization

Originating Office: Operations Division; Chemical Technology, Isotope Distribution Office

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Isotope Loan Records document ORNL's loan of a wide variety of isotopes to US and foreign universities, outside laboratories, other national laboratories, medical research and treatment facilities, and other divisions within ORNL. Included are requests for loans, internal correspondence, authorizations, shipment records, records of returns, and isotope analysis records that track the chain of custody of the loaned isotope. Some isotopes identified in these records are iron, curium, gadolinium, molybdenum, tin, lead, and zinc. Although they do not document sales, loans, transfers of RaLa, or many transactions involving cesium or iodine, these records shed light on the Laboratory's loan policies and their distribution.

Data Elements: 89, 115, 120

Isotope Production Report for December 1946, January 6, 1947

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 47-1-99

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1947

Disposition Authority: N/A

Series Description: This report summarizes the production of radioisotopes in buildings 706-D and 105 in December 1946. Building 706-D handled separated materials and 105 unseparated materials. The isotopes separated in 706-D included iodine-131, carbon-14, phosphorous-32, ruthenium-103-106, praseodymium-143, sulfur-35, and calcium-45. The report provides the total number of shipments per month for each radioisotope, and the weight of each shipment in grams. Building 105 handled materials that were unseparated, such as tellurium for iodine-131. Methods used in both buildings to safeguard against contamination are described.

Data Elements: 88, 120

Isotopes Sales Records, 1974-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H204

Access Restrictions: Unclassified; this room is a security classified area

Volume: 41 cu. ft.

Accession or Other ID Number: Schedule 3605-2-9

Condition: Fair

Container Numbers: 962-969, 970-975, 1297-1329, 2049-2053

Medium: Paper

Scanning Suitability: Not entirely suitable; contains handwritten notes, correspondence, and forms

Duplication: Unknown

Arrangement: Numerical by order number

Originating Office: Operations Division, Isotope Sales; Chemical Technology, Isotope Distribution Office

Finding Aids: Records Center "BLUREC" Databases

Disposition Authority: N/A

Series Description: This record series consists of correspondence and shipping records between ORNL's Isotopes Sales/Isotope Distribution Office and other national laboratories, private industry, foreign and domestic universities, and medical research and treatment facilities. Files are arranged numerically from 29-03547 through 41-1199. Documents include "Order File Tracking" data sheets, "Isotope and Technical Service Order Forms", "Radioactive Shipping Orders", "Isotope Distribution Documents", "Radioactive Materials Packaging Certifications", and "Radiation Worksheets." Files also include private shipping company receipts and purchase orders from corresponding institutions. Information includes order number, entry date, customer code number, customer order number, billing and shipping addresses, contract number, transaction type, the date of the last action, last action, next action, the radionuclide name, material identification, chemical and physical form of the material shipped, activity level, quantity ordered, purchase price, method of shipment, type of container and packaging used, the amount shipped, certification and authorizations to ship or receive, and memoranda of conversations. Readings of shipping containers at the surface and one meter from the surface are given in millirems per hour (mrem/hr). These records contain infrequent reference to cesium-137.

Data Elements: 120

Operations Division Annual Reports, 1948-1955

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm.H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 3 inches

Accession or Other ID Number: ORNL 10, 288, 584, 1680, 1861, 2064

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable, contains charts, graphs, and photographs

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Operations Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: These Operations Division annual reports are organized according to the following topics: reactor operations, radioisotope production and sales, radioisotope development, radioactive-waste disposal, RaLa, SF material control, and miscellaneous. The section on radioisotope development provides information on iodine-131 and cesium-137, such as the total curies produced and shipped from Oak Ridge. The section on waste disposal provides quantitative data on discharges into White Oak Creek, including total volume in gallons, beta levels, in curies, of samples from the Settling Basin and from the retention pond, and total beta activity in curies. The reports describe incidents involving spills and leaks of liquid waste. The section on RaLa reveals the total curies produced and shipped to Los Alamos, with a brief narrative describing each run.

Data Elements: 88, 103, 118, 124

Operations Division Monthly Reports, 1948-1952

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 cu. ft.

Accession or Other ID Number: ORNL 27, 119, 157, 235, 250, 337, 353, 385, 398, 474, 501, 539, 608, 643, 678, 699, 776, 857, 882, 938, 1109, 1363

Condition: Fair

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable, contains tables

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Operations Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: The Operations Division monthly reports contain information regarding an exhaust air filter system for the pile department; radioisotope separations and development of iodine-131, phosphorus, and beryllium nitride; chemical separations; and fission product production. Tank farm and burial ground waste disposal quantities are summarized with tables showing the discharge activity to White Oak Creek in gallons and total curies. Waste tank inventories are included. Notes on radioactive lanthanum (RaLa) production runs give quantities of product shipped, analytical summaries for slugs loaded, and total curies dissolved with percentages.

Data Elements: 88, 103, 115, 118, 120, 123, 124

Operations 706-D Area Weekly Reports, 1945, 1947

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.5 inch

Accession or Other ID Number: CF 45-4-135, 45-4-266, 45-4-177, 45-4-305, 47-1-281, 47-2-174, 47-7-459

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1945; 1947

Disposition Authority: N/A

Series Description: Weekly reports for the two years, 1945 and 1947, describe the activities of the 706-D area and consist of three sections: Barium, Radioisotopes, and Tank Farm and Burial Ground. The barium section describes RaLa processing, in terms of total slugs loaded and dissolved. The radioisotope section describes production runs for iodine-131 and the amount of curies produced and sold. The section on the tank farm and burial grounds describes waste disposal activities. The reports also describe maintenance activities, decontamination, clean-up, and radiological incidents involving personnel.

Data Elements: 88, 120, 124

Radioisotope Production Summary for March 1948, April 21, 1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 48-4-381

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains tables

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Indexes to Central Files Memoranda, 1948-1949

Disposition Authority: N/A

Series Description: This 1948 report is made up of four tables showing production and distribution of isotopes, including iodine-131. Tables also provide information on outstanding orders and shipment summaries for March 1948. Quantities are expressed in grams and microcuries.

Data Elements: 115, 120

Radioisotope Program Progress Monthly Reports, 1969-1982

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 3 cu. ft.

Accession or Other ID Number: ORNL/TM 2828, 2876, 2910, 2965, 2993, 3020, 3080, 3111, 3133, 3183, 3228, 3254, 3282, 3310, 3341, 3380, 3414, 3461, 3501, 3526, 3558, 3611, 3627, 3653, 3611, 3708, 3750, 3789, 3834, 3873, 3905, 3942, 3980, 4002, 4043, 4067, 4090, 4106, 4161, 4229, 4281, 4309, 4337, 4362, 4388, 4415, 4435, 4457, 4502, 4537, 4579, 4608, 4629, 4651, 4699, 4721, 4749, 4778, 4792, 4809, 4851, 4893, 4937, 4964, 4991, 5031, 5084, 5119, 5218, 5219, 5260, 5342, 5347, 5468, 5469, 5537, 5546, 5601, 5650, 5659, 5701, 5727, 5748, 5791, 5845, 5867, 5891, 5925, 5979, 6004, 6031, 6080, 6154, 6155, 6243, 6244, 6347, 6348, 6367, 6417, 6460, 6517, 6536, 6603, 6650, 6683, 6768, 6769, 6838, 6842, 6901, 6935, 6975, 7010, 7047, 7088, 7157, 7158, 7216, 7252, 7331, 7332, 7382, 7391, 7420, 7465, 7506, 7549, 7593, 7627, 7676, 7731, 7753, 7796, 7830, 7866, 7899, 7932, 8004, 8084, 8143

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable, contains tables and charts

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Operations Division

Radioisotope Program Progress Monthly Reports, 1969-1982 (continued)

Finding Aids: ORNL Register 1-4397, 1948-1969; Division Catalogs, 1948-1990; Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This records series consists of monthly progress reports and summaries concerning radioisotope production and materials development for neutron products; biomedical and research radioisotopes; cyclotron products; fission products including source fabrication, inventories, and production of cesium-137; radiation source development; radioisotope source safety testing; technology utilization; and radiation processing applications development.

Data Elements: 88, 115, 120

RaLa Production Annual Reports, 1955-1957

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.75 inches

Accession or Other ID Number: CF 55-1-211, 56-2-24, 57-4-16

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable, contains graphs and charts

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This record series contains reports summarizing annual RaLa production activities. The reports provide the analytical results of each run, in terms of total curies. For each run and each shipment, curie production is broken down according to each step in the dissolution, extraction, and evaporation process. Unusual incidents are described, including ruptured slugs, air contamination, and problems with equipment. Other details concerning the condition of the equipment and maintenance are provided, as well as process improvements and future plans for RaLa production.

Data Elements: 88, 124

RaLa Run Reports, 1947-1956

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, RM. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1.5 inches

Accession or Other ID Number: CF 47-04-209, 50-01-065, 50-04-039, 50-10-208, 50-11-083, 50-12-002, 51-01-054, 51-04-105, 51-04-139, 51-04-197, 51-05-009, 51-05-010, 51-05-085, 51-05-254, 51-05-272, 51-05-274, 51-06-021, 51-06-040, 51-07-033, 51-08-005, 51-08-112, 51-08-173, 51-08-264, 51-08-265, 51-09-097, 51-11-012, 51-11-188, 52-01-115, 52-02-099, 52-02-135, 52-02-167, 52-03-171, 52-05-021, 52-06-016, 52-06-096, 52-07-016, 52-11-145, 53-06-045, 53-07-149, 53-08-109, 53-10-067, 53-12-019, 54-02-142, 54-08-056, 55-08-007, 55-10-012, 56-02-018, 56-04-063, 56-09-104, 51-4-211, 51-5-258, 55-4-10, 55-5-49, 56-6-49, 56-11-28

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable, poor copy quality

Duplication: Unknown

Arrangement: Numerical by Central File number

Originating Office: Operations Division, Chemical Separations Department

Finding Aids: Index to Central File Memoranda, 1947; 1948-1949; 1950-1951; 1952-1959

Disposition Authority: N/A

Series Description: This series contains RaLa Run Reports written by E.J. Witkowski, Superintendent of Chemical Separations, to A. F. Rupp, Superintendent of the Isotope Development Department. The reports are in the form of five- to six-page memoranda that describe the RaLa process in general, RaLa procedures at Hanford and Los Alamos, problems with the RaLa process at ORNL, cost and economic surveys of the RaLa process, modifications to the 706-D building to meet Los Alamos's request for shipments of RaLa with high curie counts, trips to the other DOE facilities (LANL, INEL, Hanford), development of the RaLa-MTR process, and reports of individual RaLa runs.

Data Elements: 88

RaLa Shipment Reports, 1946-1952

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 6 inches

Accession or Other ID Number: 46-6-272, 46-5-330, 46-3-187, 46-4-370, 46-8-221, 46-12-167, 46-12-302, 47-7-339, 47-8-209, 47-9-125, 47-10-276, 47-11-29, 47-11-202, 47-11-461, 48-2-155, 48-9-51, 48-1-296, 48-3-256, 48-7-248, 49-1-172, 49-3-264, 49-4-220, 52-9-3

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division, Department-706D Area

Finding Aids: Index to Central Files Memoranda, 1946; 1947; 1948-1949; 1952-1959

Disposition Authority: N/A

Series Description: This record series consists of memoranda and correspondence pertaining to RaLa shipments from the 706-D building. Reports provide a narrative description of the shipment, describing the physical content; its color; its number of curies; a spectrographic analysis of the shipment, which indicates its metal content in mgs (Pb, Fe, Cr, Ni, Sr, Ba); its radiation reading in roentgens per hour and the date and time of the reading; and anything unusual about the shipment. Reports are from the 706 D building manager, S.A. Reynolds, to M.C. Leverett, Director of Research and Development, Technical Division. This series also contains correspondence between E. J. Witkowski (ORNL) and J.A. Leary (LANL) concerning RaLa shipments from ORNL to LANL. Reports provide the RaLa run number and the RaLa shipment number and the total curies in the shipment. Reports describe the cleanliness of the shipment, the results of analysis for contamination, the tentative date of the next shipment, the reason for a failed run, and a description of the "milking" of a shipment at Los Alamos for lanthanum-140.

Data Elements: 88, 120

[Reports on] Slugs for 706-D Operations, 1946-1947

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 1 inch

Accession or Other ID Number: CF 46-4-300, 46-4-343, 46-6-224, 47-1-227, 47-2-381, 47-10-588

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Unknown

Finding Aids: Index to Central Files Memoranda, 1946; 1947

Disposition Authority: N/A

Series Description: This record series contains reports on the slugs discharged from the pile to be used for radioactive lanthanum runs in the 706-D building. Information includes the run number, number of slugs, row number of each slug, date charged, date discharged, days exposed, position factor, and accumulated kilowatt hour in the period before and during the last 40 days.

Data Elements: 88

206 Area Weekly Report, April 15, 1945

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 45-4-178

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central File Number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1945

Disposition Authority: N/A

Series Description: This 1945 report discusses activities associated with waste disposal in the Settling Basin and Retention Pond. It provides the maximum, minimum, and average counts/minutes/cubic centimeter for beta activity at these sites. The report furnishes the total amount in gallons of the liquid waste discharged in these waters on a daily and weekly basis. It discusses cleanup and decontamination measures and includes an electrostatic analysis of the contents of the Settling Basin.

Data Elements: 120

706-D Analytical Laboratory Manual, January 10, 1946

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 46-1-148

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Operations Division

Finding Aids: Index to Central Files Memoranda, 1946

Disposition Authority: N/A

Series Description: This 1946 manual contains the general laboratory practices and analytical procedures used in the 706-D Analytical Laboratory. The manual describes practices and procedures concerning sampling identification and handling, dilution and disposal of RaLa waste, barium determination, calculation of curies for shipment, iodine-131 determination, and dip microsamplers. It also includes standards for the calibration of instruments.

Data Elements: 89, 114

[Paper on] Cesium Standards for "Burn-Up," August 26, 1954

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: CF 54-8-170

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by Central Files number

Originating Office: Technical Division, Radiochemistry Section

Finding Aids: Index to Central Files Memoranda, 1952-1959

Disposition Authority: N/A

Series Description: This 1954 document describes the calibration equations used to standardize four cesium-137 standards for shipment to Hanford and to determine uranium "burn-up." The document includes the experimental data, equations, and results for each of the cesium standards.

Data Elements: 89, 95

[Report on] Distribution of I^{131} in Wastes from the Ba^{140} Process, July 8, 1946

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: MonN-133

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by MonN number

Originating Office: Technical Division, Operations Area

Finding Aids: Index to Central Files Memoranda, 1946

Disposition Authority: N/A

Series Description: This 1946 report, written by S.A. Reynolds, W.A. Rodger, and E.J. Witkowski, gives the results of an investigation to determine the distribution of iodine-131 in barium-140 process wastes. Results are based on data gained from the examination of solid and liquid wastes generated by the processing of 900 slugs from Run #10. Amounts are presented in table format giving the amount of iodine-131, in curies, in the dissolver solution, metal wastes, and scrubber wastes for each batch.

Data Elements: 31, 88, 116

[Report on] Liquid Waste Disposal at Oak Ridge National Laboratory, 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: ORNL-328

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains drawings, maps, charts, graphs, and tables

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Technical Division, Process Design Section

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This 1949 report describes four types of liquid waste produced at ORNL, the average amounts generated per week, handling procedures, the status of storage facilities, and recommendations for correcting system faults. The four liquid waste classes, which are classified according to their composition and radioactivity, are radiochemical waste, metal waste, warm waste, and process waste. This report provides estimates of the volume and activity of each of these waste processes weekly. Wastes were stored in the North Tank Farm, South Tank Farm, and the Settling Basin area prior to disposal in White Oak Creek, a tributary of the Clinch River. RaLa runs with Clinton slugs produced an average of 4550 gallons of uranium metal waste, while runs with Hanford slugs produced 1200 gallons. Also included in the report are measurements of beta activity resulting from cesium isotopes and radioiodine-131 in radiochemical wastes. Monitoring results are expressed in counts/minute/milliliter (c/m/ml), and in disintegrations/minute/milliliter (d/m/ml). The report also provides a brief history of liquid waste disposal at ORNL.

Data Elements: 88, 103, 124.

[Report on] RaLa Semi-Works Development Ion Exchange Study, 1949-1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: CF 52-3-94

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphics, charts, and tables

Duplication: Unknown

Arrangement: Numerical by Central File number

Originating Office: Technical Division, Chemical Technology Department

Finding Aids: Index to Central File Memoranda, 1952-1953

Disposition Authority: N/A

Series Description: This study consists of several quarterly and monthly reports on the development of the ion exchange process in the barium separation and purification phase of the RaLa process from August 1949 to June 1950. The report describes the processes and equipment used and comments on the effectiveness of each run. Some of the reports refer to specific notebooks in which the work is documented.

Data Elements: 88

[Report on] Semi-Works Development of the RaLa Process, 1949

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: ORNL-231

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Technical Division, Chemical Process Development

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report describes the semi-works development of the RaLa process between November 1944 and July 1945 in an effort to increase shipments from 200 to 2,000 curies. The report focuses on the lead removal and barium concentration steps in the process. Step-by-step procedures are included. Barium losses at various stages in the process are expressed as percentages.

Data Elements: 88

Clinton Laboratory Technical Research Notebooks, 1943-1948

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 65 cu. ft.

Accession or Other ID Number: Schedule 3046-1-40

Condition: Fair

Container Numbers: T-241 - T-305

Medium: Paper

Scanning Suitability: Not suitable; contains bound notebooks with handwritten entries

Duplication: Unknown

Arrangement: Numerical by notebook number

Originating Office: Various divisions

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Clinton Laboratory Technical Research Notebooks consist of hardbound notebooks approximately 7x9 inches that number consecutively from CL-1 through CL 2090. The name of the individual assigned the notebook and the date of issue appear inside the front cover. The laboratory division and location of work are rarely identified. The notebooks record the individual's daily work, including lecture notes, records of meetings and discussions, and research data. Most information relates to chemical separations work or slug testing. Other types of information include progress reports, analysis of materials, calculations, theoretical equations, illustrations, graphs, and diagrams.

Data Elements: 8, 31, 88, 89

[Report on] Determination of Potential Sources of Area Atmospheric Radio-Active Contamination, 1950

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: ORNL-677

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphics and photographs

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Reactor Technology Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This report summarizes the Reactor Technology Division's efforts to determine the sources of onsite atmospheric radioactive contamination during 1948-1949, including RaLa operation fume lines and iodine-131 and -135 recovery operations. Sampling equipment consisted of CWS filter paper designed to remove particulates. The filters were placed in stream flows of the facilities. Results are reported only as potential contamination levels. Gamma activity levels were the prime focus of the investigation. Results are given in millicuries/hour (mCi/hr), microcuries/cubic foot (mCi/f^3), counts/minute/square inch (c/min/in^2), and curies per day (Ci/d).

Data Elements: 88, 103, 116, 119, 124

[Report on] Estimated Radiological Doses to the Maximumly Exposed Individual and Downstream Populations from Releases of Tritium, Strontium-90, Ruthenium-106, and Cesium-137 from White Oak Dam, January 1980

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inch

Accession or Other ID Number: ORNL/TM-7039

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL/TM number

Originating Office: Health and Safety Research Division

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This 1980 report documents the results of a study to determine the maximum doses due to releases of tritium, strontium-90, ruthenium-106, and cesium-137 from the White Oak Dam to hypothetical residents near the confluence of White Oak Creek and the Clinch River, and near the Clinch and Tennessee rivers (Watt's Bar Lake). The radionuclides were assumed to have come from leachate from the waste burial grounds at ORNL. Releases are given in curies, and concentrations in microcuries/milliliter (mCi/ml).

Data Elements: 118

Environmental Assessment Planning Records, 1988-1990

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A208

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 1 cu. ft.

Accession or Other ID Number: 3195-2-11

Condition: Good

Container Numbers: 151

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by project number

Originating Office: Environmental and Health Protection Division, Environmental Monitoring and Compliance Section, Environmental Review and Documentation Program

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: Permanent, DOE 5481.1B Chapter 2 Guidance

Series Description: The Environmental Assessment Planning records contain the environmental assessments for line item and general plant projects at ORNL. Each file contains a report providing information on the proposed environmental assessment action and background information on the site. Files may include sections containing a description of the project, an environmental checklist concerning materials on the site, disposal and storage of liquid and solid waste, an environmental assessment, references, and action items and responsibilities. Although these reports do not give information on actual contaminants, they lay out plans for identifying contaminants and how to proceed with remediation. Non-epidemiologic topics include road safety improvements, deer control fencing, and building modifications. Some sites included are Waste Area Groups 1 and 6 and the Coal Yard Runoff Treatment Facility.

Data Elements: 124

Interim Remedial Action Work Plan for the Cesium Plots at Waste Area Grouping 13 at Oak Ridge National Laboratory, Oak Ridge, Tennessee, July 1993

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: ORNL/ ER-157 & D3, DOE/OR/01-1122 & D3

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable, contains charts, graphs, and maps

Duplication: Unknown

Arrangement: Numerical by ORNL/ER number

Originating Office: Office of Environmental Restoration and Waste Management, Environmental Restoration Program

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This 1993 report details a work plan to carry out the remedial actions necessary to bring Waste Area Group (WAG) 13 into compliance with state and federal regulations. The WAG 13 plots were purposely contaminated with cesium-137 in 1968 to simulate conditions of a nuclear fallout. The three steps involved in the remedial action--excavation of cesium-contaminated soil, placement of the soils in containers and transport to WAG 6, and the backfill of the excavated plots with clean materials--are described.

Data Elements: 89

Laboratory Notebooks, 1943-1983

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rms. H205, B4500

Access Restrictions: Unclassified and classified; vault is a security classified area

Volume: 50 linear feet

Accession or Other ID Number: A598-A9799G; CL-2066, CL-2060, Cl-A-44, 454, 798, 811, 0835, 1081, 1406, 1464, 1634, 2296, 2670, 2724, 2729, 2730, 2735, 2736, 2743, 2744, 2750, 2755, 2757, 2760, 2761, 2787, 2792, 2793, 2794, 2800, 2801, 2835, 2836, 2915, 2939, 2939, 2987, 2989, 2990, 2991, 3005, 3210, 3212, 3219, 3220, 3244, 3251, 3254, 3255, 3259, 3286, 3486, 3486, 3686, 3711, 3723, 3736, 3738, 4065, 4075, 4079, 4099, 4117, 4124, 4126, 4132, 4172, 4180, 4186, 4189, 4190, 4208, 4505, 4659, 5252, 5253, 5258, 5260, 5261, 5268, 5278, 5644, 5647, 5652, 5652, 5663, 5681, 5682, 5686, 5734, 5738, 5739, 5766, 5768, 5779, 5835, 5854, 5857, 5858, 5867, 5868, 5872, 5878, 5881, 5883, 5886, 5889, 5892, 5893, 5896, 5898, 5899, 5900, 5902, 5904, 5915, 5937, 5942, 5942, 5943, 5944, 5944, 5964, 5972, 5973, 5979, 5990, 5997, 6007

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not suitable; information is handwritten and often in pencil

Duplication: Unknown

Arrangement: Numerical by notebook number

Laboratory Notebooks, 1943-1983 (continued)

Originating Office: Analytical Chemistry, Biology, Chemical Technology, Chemistry, Health Physics, Instruments and Controls, Isotope Development, Materials Chemistry, Metallurgy, Metals and Ceramics, Physics, and Reactor Division

Finding Aids: Index to Laboratory Classified Notebook Register, 1949-1994; ORNL Technical Research Notebook Card Index, 1948-1994; Unclassified Notebook Register for Classified Notebooks

Disposition Authority: N/A

Series Description: This series consists of Unclassified Laboratory Notebooks, 1943-1983 and Formerly Classified Laboratory Notebooks, 1948-1960.

Unclassified Laboratory Notebooks, 1943-1983 contain data and observations of various researchers conducting experiments in laboratories throughout ORNL. Information on RaLa production and the development of the RaLa process is scattered throughout these volumes. Notebooks contain summary data, remarks, diagrams, equations, calculations, and general notes by scientists working on various projects.

Formerly Classified Laboratory Notebooks, 1948-1960, have been recently (June-July, 1994) reviewed for declassification. Notebook numbers CL-2066-6007 represent those surveyed in this inventory. Between 800 and 1000 notebooks have been downgraded to unclassified but some remain Secret Restricted Data due to the content. Notebooks surveyed contained scattered references to RaLa, iodine-131, cesium-137, and mercury.

Data Elements: 88

[Report on] Large Scale Preparation of High Purity ^{131}I and ^{133}Xe by Sorption Techniques, January 1966

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: <0.25 inch

Accession or Other ID Number: ORNL 3840

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Not entirely suitable; contains graphs

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Isotopes Division

Finding Aids: ORNL Register 1-4397, 1948-1969

Disposition Authority: N/A

Series Description: This 1966 report summarizes research results concerning large-scale production of iodine-131 and xenon-133 from fission products. The process described is based on previously developed techniques for the recovery of millicurie quantities of iodine-131 and involves the use of activated charcoal during processing for xenon-133 collection and the use of platinum felt in the final purification stage for iodine-131 collection. Graphs are included.

Data Elements: 88

Metallurgical Laboratory Technical Research Notebooks, 1942-1951

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 12 cu. ft.

Accession or Other ID Number: Schedule 3046-1-40

Condition: Fair

Container Numbers: 3301-3304, 3306-3309, 3311-3314

Medium: Paper

Scanning Suitability: Unsuitable; contains bound notebooks with handwritten entries

Duplication: No

Arrangement: Numerical by MUC (Metallurgical Laboratory, University of Chicago) number, generally chronological by date of assignment

Originating Office: Various divisions

Finding Aids: Records Center "BLUREC" Database

Disposition Authority: N/A

Series Description: The Metallurgical Laboratory Technical Research Notebooks consist of hardcover notebooks assigned to individual scientists to record daily activities, experimental results, and ongoing research. Each notebook was assigned a MUC (Metallurgical Laboratory, University of Chicago) number. Information includes the employee's name, dates of use, references to previous notebooks, experimental notes, parameters, observations, tables of results, analysis of data, dates work was conducted, names and amounts of chemicals used or produced, procedures used, calculations, graphs, flowcharts, illustrations, mechanical information about equipment used, and calibration information. Early notebooks contain a great deal of information about uranium and plutonium. Box 3306 contains a notebook discussing work with lanthanum salts. Work locations are rarely identified.

Data Elements: 8, 88, 89, 114, 115

ORNL Technical Research Notebooks, 1949-1965, 1979

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. A224

Access Restrictions: Unclassified; arrangements must be made for access to the room

Volume: 79 cu. ft.

Accession or Other ID Number: Schedule 3046-1-40

Condition: Fair

Container Numbers: 2796-2874

Medium: Paper

Scanning Suitability: Not suitable; contains bound notebooks with handwritten entries

Duplication: No

Arrangement: Numerical by notebook number, generally in chronological order by date of issue

Originating Office: Various Divisions

Finding Aids: Records Center "BLUREC" Database; ORNL Technical Research Notebooks Card Index

Disposition Authority: N/A

Series Description: The ORNL Technical Research Notebooks record the daily activities of ORNL research and analytical personnel. The hardbound notebooks, approximately 8.5x11 inches in size, are numbered from 2 to 6072 with scattered missing volumes, and two volumes each from 1979 numbered 8826 and 8827. Most of the notebooks date from the 1950s. Each notebook includes an information sheet inside the front cover which provides the owner's name, division, and building number; the issue date; and the notebook number. Some of the divisions represented in the series include Health Physics, Chemistry, Analytical Chemistry, Chemical Technology, Neutron Physics, and Environmental Sciences. Although some notebooks include survey results and notes on meetings and discussions, most contain scientific research information and data. Information includes radiation surveys; locations and drawings of surveyed areas; purposes of experiments/analyses; sketches of equipment; calibration procedures; experimental parameters; results, often in the form of tables and graphs, lists of samples analyzed and then results; and information concerning the preparation of materials for disposal. The notebooks also include bibliographies, tables of contents, and notes on lectures and training sessions. Notebook 8827, an Environmental Sciences notebook, includes photos of waste disposal sites at ORNL. The only indexing system extant for this collection is a card index arranged alphabetically by the surname of the person assigned the notebook. The card file is divided into two parts, retired or separated personnel and active employees. The Laboratory Records Vault Custodian in Room H205 maintains the card index. See page 19.

Data Elements: 8, 31, 85, 88, 114, 124

Requests for Storage or Disposal of Radioactive Solid Waste or Special Materials, 1962-1994

Location: 1. Active:
2. Inactive: ORNL, Building 3001

Access Restrictions: Unclassified; access is restricted to authorized personnel

Volume: 12 cu. ft.

Accession or Other ID Number: N/A

Condition: Good

Container Numbers: File Cabinet 1, drawers 1-4, File Cabinet 2, drawers 3-5

Medium: Paper

Scanning Suitability: Not entirely suitable; this series contains carbon copies and handwritten forms

Duplication: Metals and Ceramics Division maintains carbon copies of Form UNC-2882

Arrangement: Chronologically by month and year; numerically by well number; numerically by file code then by form number

Originating Office: Waste Management and Remedial Action Division, Waste Management Operations Section, Metals and Ceramics Division

Finding Aids: Solid Waste Information Management Systems (SWIMS) Database

Disposition Authority: N/A

Series Description: This series consists of records relating to the transfer, disposal, tracking, and destruction of radioactive solid waste. The Waste Management Operations Section Document Management Center tracks the movement of the waste identified in these records using the Solid Waste Information Management System (SWIMS) database. Files are arranged chronologically by year and then month for the period 1962-1970, chronologically by year 1965-1977, numerically by well 1969-1972, and numerically by file code and then by form number 1987 to the present. Documentation within each file consists of requests for storage or disposal (form UNC-2822), log-in data sheets, health physics worksheets, and tracking updates (form UNC-2822B). The requests identify the requestor's name, employee

Requests for Storage or Disposal of Radioactive Solid Waste or Special Materials, 1962-1994 (continued)

Series Description (cont'd)
number, building, and phone number; the charge number; the origin of the waste to be transferred and its weight, volume, and total estimated curies; the waste classification; type of waste; container type; best estimate, in curies or grams, of the principle isotopes contained in the waste; the health physics technician's reading of external contamination of the filled container; and the storage area foreman's record of actions taken. Log-in data sheets for low-level waste stored in containers provide information on the packet number within each container; the date; the original location of the waste; radiation, in millirem per hour; the estimated curies; the predominant radionuclides; and the physical and chemical form of the waste. Health physics worksheets identify the type of measurements taken, the equipment used, and the activity levels detected for wastes prior to storage. Changes in location or storage container are indicated on waste tracking updates. Correspondence, "Requests for Nuclear Safety Reviews" (form UNC-5917), and maps showing burial locations may appear in some files. Radioisotopes mentioned in this series include cesium-137, plutonium-239, and americium 241.

Data Elements: 8, 16, 31, 89, 120

Technical Background Information for the Environmental and Safety Report, The 1977 Clinch River Sediment Survey - Data Presentation, November 23, 1982

Location: 1. Active:
2. Inactive: ORNL, Building 4500N, Rm. H205 vault

Access Restrictions: Unclassified; vault is a security classified area

Volume: 0.25 inches

Accession or Other ID Number: ORNL-5878

Condition: Good

Container Numbers: Open shelves

Medium: Paper

Scanning Suitability: Suitable

Duplication: Unknown

Arrangement: Numerical by ORNL number

Originating Office: Industrial Safety and Applied Health Division

Finding Aids: Technical Information Document Database (TIDD)

Disposition Authority: N/A

Series Description: This report provides technical background information used to support an Environmental and Safety Report, Vol. 5, concerning Clinch River sediment contamination. It includes sections on sources of contamination, water sampling, White Oak Creek sediment data, radioactivity levels in White Oak Lake sediments, Clinch River sediments, sampling and analytical methodologies, data analysis, quality control, and results.

Data Elements: 103, 124, 118

APPENDIX A
PERSONS INTERVIEWED

In an effort to locate records pertinent to the project HAI conducted interviews with the following records custodians and scientists during both the June and August visits:

Eileen Baity
Waste Management and Remedial Action Division
Waste Management Documentation Management Center

Gordon Blaylock
Environmental Sciences Division

Lyndia Burdine
Research Reactors Division

Bob Childs
Waste Management Division

Betty Clack
Laboratory Records
Information Management Division

Ted Davis
Analysas Corporation

Charlie DeVore
Metals and Ceramics Division

RaNaye Dreier
Environmental Sciences Division

Mary Du Rea
Information Management Services

Jay Flaherty
Laboratory Records
Information Management Services

M. Catherin Grissom
Office of Scientific and Technical Information (OSTI)

Dave Hamrin
Laboratory Records
Information Management Services

Debbie Hensley
Waste Management and Remedial Action Division
Waste Management Documentation Management Center

Gary Jacobs
Environmental Sciences Division

Deb Johnson
Laboratory Records
Information Management Services

Faye Johnson
Information Management Services

Barbara Kron
Chemical Technology Division

J. Lowell Langford
Office of Scientific and Technical Information (OSTI)

Becky Lawson
Laboratory Records
Information Management Services

F.Y. Lee
Environmental Sciences Division

Dave McGinty
Research Reactors Division

Gene McNeese
Chemical Technology Division

Virginia Norman
Laboratory Records
Information Management Services

George Southworth
Environmental Sciences Division

Juli Stewart
Information Management Services

Marie Swenson
Laboratory Records
Information Management Services

Craig Whitmire, Jr.
Waste Management and Remedial Action Division
Waste Management Document Management Center

APPENDIX B
INFORMATION REQUIRED BY THE DEPARTMENT OF ENERGY FOR EPIDEMIOLOGIC AND HEALTH STUDIES (ORIGINAL)

DATA PERTAINING TO CONTRACTOR ORGANIZATIONS

Any type of materials that will help understand the functional organization of the contractor, or to identify individuals who may have had responsibility for operations within a facility. These types of materials are useful when studying a facility because they enable the researcher to identify key personnel who were involved with certain projects and to contact these persons, when necessary, to help understand the nature of the plant operations and potential exposures that occurred in specific areas of the plant. Examples of records that may meet these needs are:

1 Contractor Organizational Charts
2 Contractor Organizational Histories/Plant Information Packets
3 Mission Statements for Functional Units
4 Contractor Personnel Directories/Telephone Directories
5 Copy of all Position Descriptions and Effective Dates
6 Diaries, Subject Files, and Correspondence of the Facility Director

DATA PERTAINING TO INDIVIDUALS

Identification

Epidemiologic studies of workers require the creation of lists of individuals at each facility who will be included in the study. Therefore, all records containing identifying information for employees at a specific facility are of great value. These records will typically be from personnel or payroll departments and may include the following data:

7 Social Security Number
8 Name (last, first, middle)
9 Maiden Name
10 Other Names
11 Address (city, state, zip)
12 Spouse Name (last, first, middle)
13 Spouse Address (street, city, state)
14 Emergency Contact (last, first, middle, relationship)
15 Emergency Contact Address (street, city, state)
16 Employer Identification Numbers (payroll, annuity, badge, etc.)

Demographic Information

In order to compare the characteristics of the worker population with other groups, it is desirable to know the following information:

17 Birth Date
18 State (or Country) of Birth
19 City of Birth
20 Sex
21 Race
22 Education (highest degree)
23 Marital Status

Work History

Work records indicating the type of jobs performed over specific periods of time are extremely useful. Specific data items are as follows:

24 Hire Date at Facility
25 Last Termination Date at Facility
26 Reason for Termination (medical, disability, etc.)
27 Type of Employee (hourly, salaried, etc.)
28 Occupation or Job Title (all jobs titles held and associated duties)
29 Organization Assignments (building and/or department assignments)
30 Previous Work History (list of all previous employers and job titles/duties)
31 Work Location (facility-specific)
32 Military Service (branch of military, dates served, and service number)
33 Health-Related Leaves, Reassignments, Work Restrictions
34 Performance Appraisals

Medical Data

Medical records, records of treatment, incident or accident report, and company health insurance records may be useful for epidemiologic studies. Examples of the information that may be used from these records include:

35 Pre-Employment Periodic or Special Physicals, Including Lab Test Results
36 Smoking History
37 Alcohol/Beverage History
38 Pre/Post Employment Injuries/Accidents
39 Exposure History for Hazardous Materials
40 Sick Leave Records
41 Return to Work Examinations
42 Pathological Reports
43 Familial Illness or Mortality History
44 Drug/Medication Use History
45 Diagnostic X-rays (dental, chest, other)
46 Predisposing Diseases
47 Disease History

48 History of use of DTPA for Chelation
49 Incident or Accident Reports
50 Company Health Insurance Records
51 Workers' Compensation Claims
52 Identifying Information that Allows Linkage of Medical Records to Employment Record Data (i.e., name, payroll number, social security number, birth date, etc.) and to Facilities (building name, etc.)

Mortality Data (any type of information concerning death)
Many studies compare death rates in worker populations with rates in other populations. The following data items are useful:
53 Death Certificate
54 Date of Death
55 Cause of Death (including all listed causes and contributory conditions)
56 Place of Death (city, state)
57 Payment of a Death Benefit and Date
58 Vital Status at Last Known Date

External Radiation
External radiation exposure records that pertain to individual workers or to individual areas in a plant must be retained. Types of data items contained on these records are:
59 Estimated Whole Body Dose Due to X and Gamma Rays
60 Estimated Whole Body Dose Due to Neutrons
61 Estimated Whole Body Dose Due to Tritium
62 Estimated Total Whole Body Dose
63 Individual Film Badge Records
64 Individual Thermoluminescent Dosimeter Records
65 Partial Body or Skin Doses
66 Date of Each Known Exposure or Reading
67 Identifying Information that Allows Linkage of the External Radiation Records to Employment Record Data (i.e., name, payroll number, social security number, birth date, etc.) and to Facilities (building name, etc.)

Internal Radiation
Internal radiation exposure records for workers must be retained. Types of data items contained on these records are:
68 Urinalysis Testing for Radionuclides (date, indication of radionuclide, results and units)
69 Portal of Entry (for each radionuclide)
70 Analysis Type (urinalysis, whole body count, fecal analysis, etc.)
71 Whole Body Counting Data
72 Date of Each Known Exposure or Test
73 Any Record Confirming a Deposition

74 Identifying Information that Allows Linkage of the Internal Radiation Records to Employment Record Data (i.e., name, payroll number, social security number, birth date, etc.) and to Facilities (building name, etc.)

Industrial Hygiene

Chemical Exposures

Data generated to evaluate occupational exposure levels and to demonstrate compliance with exposure limits should be systematically retained. The types of records of data that should be retained may include:

75 Individual Blood or Urinalysis Records for Specific Chemicals (mercury, lead, etc.)
76 Dates of Exposures
77 Environmental Monitoring Data Relating to Specific Work Locations and Jobs
78 Concentration Readings
79 Sample Type (blood, urinalysis, fecal, breathing zone, general air, etc.)
80 Results of Units (mg/ml, ppm, mg/cubic meter)
81 Monitoring Characteristics (devices, times, control data, frequency, techniques, etc.)
82 Identifying Information that Allows Linkage of the Chemical Exposure Records to Employment Record Data (i.e., name, payroll number, social security number, birth date, etc.) and to Facilities (building name, etc.)

Physical Agents

Data generated to evaluate occupational exposure levels and to demonstrate compliance with exposure limits should be systematically retained. Such data should include:

83 Hazard Inventories of Potentially Health Hazardous Physical Agents (noise, laser light, electromagnetic radiation, magnetic fields, etc.)
84 Location and Date of the Inventory
85 Work Place or Area of Survey Results along with Exposure Levels
86 Equipment and Methods Used to Assess Hazard
87 Identifying Information that Allows Linkage of the Exposures to Physical Agents to Employment Records, to Medical Information and to Facilities

DATA PERTAINING TO FACILITIES

Area/Site Monitoring Information (by job category, year, building, etc.)

Other records that relate to the calibration, sensitivity, type, location of the equipment used for personnel monitoring, surveying, air sampling, etc., are quite useful, especially if they can be linked to specific processes, areas, buildings, and personnel. Information describing the general requirements followed by the facility for the provision of various personnel monitoring equipment, examinations, or testing is also desirable. Examples of these types of records include the following:

88 Chemical or Other Processes, by Year and Building
89 Hiring, Materials Handling, and Other Practices

90 Medical Examination Requirements for Employment/or Employment in Specific Jobs
91 Requirements for Wearing Dosimeters
92 Decontamination Data
93 Dosimeter Type
94 Dosimeter Manufacturer
95 Sensitivity of Testing Procedures
96 Dosimeter Processing Procedures
97 Dosimeter Reading Procedures
98 Frequency of Reading Dosimeters
99 Frequency of Analysis
100 Type of Monitoring System
101 Type of Monitoring Test
102 Protection Equipment Requirements
103 Isotopic Information
104 Concentration Reading
105 Location of Reading
106 Duration of Exposure Reading
107 Requirements for Wearing Protection Equipment
108 Monitoring System for Other Substances
109 Sensitivity Procedures
110 Type of Monitoring Procedures Used
111 Toxic Substances--Concentration Readings
112 Location of Toxic Substance Readings
113 Test Frequency
114 Calibration Requirements
115 Chemical Inventories
116 Information on Product Particle Sizes and Chemical Form at Potential Release Points
117 Details of Chemical or Other Processes in a Facility, Past as well as Current, Including Engineering Drawings of Facility
118 Off-Site Monitoring or Sampling Locations and Results
119 Any Measurements of Release Points from the Facility (e.g., stack sampler results, water losses, sump measurements)
120 Inventory Records of Incoming and Outgoing Material
121 Reports of Losses of Material from a Stack
122 Report of Unplanned Releases, Incidents, Spills
123 Maintenance Records of Pollution Control Devices, such as Dust Collectors, Scrubbers, or Filters

APPENDIX B
INFORMATION REQUIRED BY THE DEPARTMENT OF ENERGY FOR EPIDEMIOLOGIC AND HEALTH STUDIES (REVISED)

DATA PERTAINING TO CONTRACTOR ORGANIZATIONS

Any type of materials that will help understand the functional organization of the contractor, or to identify individuals who may have had responsibility for operations within a facility. These types of materials are useful when studying a facility because they enable the researcher to identify key personnel who were involved with certain projects and to contact these persons, when necessary, to help understand the nature of the plant operations and potential exposures that occurred in specific areas of the plant. Examples of records that may meet these needs are:

1. DOE/Contractor Organizational Charts
2. Contractor Organizational Histories/Plant Information Packets
3. Mission Statements of the Site and Individual Functional Units
4. Contractor Personnel Directories/ Telephone Directories
5. Position Descriptions and Associated Dates
6. Correspondence Files of Directors and Managers

DATA PERTAINING TO INDIVIDUALS

Identification of Individual

Epidemiologic studies of workers require the creation of lists of individuals at each facility who will be included in the study. Therefore, all records containing identifying information for employees at a specific facility are of great value. These records will typically be from personnel or payroll departments and may include the following data:

7. Social Security Number
8. Name
9. Maiden Name
10. Other Names
11. Address/Phone Number
12. Spouse Name
13. Spouse Address
16. Employer Identification Numbers (payroll, annuity, badge, etc.)

Demographic Information

In order to compare the characteristics of the worker population with other groups, it is desirable to know the following information:

17. Birth Date
18. Place of Birth
20. Sex

21. Race
22. Education (highest degree)
23. Marital Status

Work History

Work records indicating the type of jobs performed over specific periods of time are extremely useful. Specific data items are as follows:

24. Hire Date at Facility
25. Termination Date at Facility
26. Reason for Termination
27. Type of Employee (hourly, salaried, etc.)
28. Occupation or Job Title (all job titles held and associated dates)
30. Previous Work History
31. Work Location (building, area)
33. Reassignments and Work Restrictions
34. Job or Task Descriptions and Performance Appraisals

Medical Data

Medical records, records of treatment, incident or accident report, and company health insurance records may be useful for epidemiologic studies. Examples of the information that may be used from these records include:

35. Employee Physical Examinations
36. Smoking History
37. Alcohol/Beverage History
44. Drug/Medication Use History
38. Record of Injuries or Accidents Before or During Employment
39. Record of Exposure to Toxic or Carcinogenic Substances
40. Record of Sock and other Health-Related Leaves
41. Return to Work Clearances
42. Pathological Reports and Lab Results
45. Diagnostic X-Rays (dental, chest, other)
43. Family Disease and Mortality History
47. Employee Disease History, Including Predisposing Conditions
48. Record of use of Chelation Agents, including DTPA
51. Workers' Compensation Claims

Mortality Data (any type of information concerning death)

Many studies compare death rates in worker populations with rates in other populations. The following data items are useful:

53. Death Certificate
54. Date of Death
55. Cause of Death
56. Place of Death
57. Payment of a Death Benefit and Date
58. Vital Status at Last Known Date

DATA PERTAINING TO INDIVIDUAL EXPOSURE ASSESSMENT

External Radiation

External radiation exposure records that pertain to individual workers or to individual areas in a plant must retained. Types of data items contained on these records are:

59. Estimated Whole Body Dose Due to X-Rays & Gamma Rays and Associated Dates
60. Estimated Whole Body Dose Due to Neutrons and Associated Dates
61. Estimated Whole Body Dose Due to Tritium and Associated Dates
62. Estimated Total Whole Body Dose and Associated Dates
63. Individual Dosimeter Types
65. Partial Body or Skin Doses and Associated Dates

Internal Radiation

Internal radiation exposure records for workers must be retained. Types of data items contained on these records are:

68. Bioassay Testing (including fecal and urine analysis) for nuclides
69. Estimated internal doses, including nuclides, organ of deposition
71. Whole Body Counts, including nuclides, type of instrument, results, units, and associated dates

INDUSTRIAL HYGIENE

Chemical Exposures

Data generated to evaluate occupational exposure levels and to demonstrate compliance with exposure limits should be systematically retained. The types of records of data that should be retained may include:

75. Results of Bioassays (including blood and urine analysis) such as exposure to chemicals, chemical names, results units, and associated dates
77. Monitoring Data Relating to Specific Work Locations or Assignments, including monitoring instruments, control data, results, units, and associated dates

Physical Agents

Data generated to evaluate occupational exposure levels and to demonstrate compliance with exposure limits should be systematically retained. Such data should include:

83. Inventories of Potentially Health Hazardous Physical Agents (noise, laser beam, electromagnetic fields, etc.), including associated dates, building, and locations
85. Survey of Work Areas, including associated dates, kind of monitoring equipment, results, and units

DATA PERTAINING TO FACILITIES

Area/Site Monitoring Information (by job category, year, building, etc.)
Other records that relate to the calibration, sensitivity, type, location of the equipment used for personnel monitoring, surveying, air sampling, etc., are quite useful, especially if they can be linked to specific processes, areas, buildings, and personnel. Information describing the general requirements followed by the facility for the provision of various personnel monitoring equipment, examinations, or testing is also desirable. Examples of these types of records include the following:

Physical Plant and Operations Records

88. Chemical or Other Processes, including building locations and associated dates
89. Hiring, Materials Handling & Other Practices
90. Requirements for Employment in Specific Jobs
114. Calibration Requirements
115. Chemical Inventories
117. Blueprints, Floor Plans, and Engineering Drawings of Building
120. Inventory Records of Incoming and Outgoing Material
123. Maintenance Records of Pollution Control Devices such as Dust Collectors, Scrubbers, or Filters

Worker Radiation Monitoring/Protection Programs

81. Monitoring Program Characteristics
91. Requirements for Wearing Dosimeters
93. Dosimeters Type
94. Dosimeter Manufacture
96. Dosimeter Processing Procedures
97. Dosimeter Reading Procedures
98. Frequency of Reading Dosimeters
102. Requirements for Use of Protection Equipment
107. Requirements for Wearing Protection Equipment

Environmental Monitoring

103. Results of Environmental Monitoring, including radionuclide or chemical information, units, and location
116. Information on Product Particle Size and Chemical Form at Potential Release Points
124. On-Site Monitoring or Sampling Locations and Results
118. Off-Site Monitoring or Sampling Locations and Results
119. Any Measurements of Effluents from Facility Relief Point, including stack sampler results, water losses, and sump measurements
121. Reports of Losses of Material from stack or filters
122. Reports of Unplanned Releases, Incidents, Spills